THE IMPACT OF MICROFINANCE ON POVERTY ALLEVIATION IN NORTHWEST NIGERIA: THE MODERATING EFFECT OF ENTREPRENEURIAL SELF-EFFICACY

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By

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ABSTRACT

Nigeria has been among the 25 poorest countries since 2006 with over 70% of her population living in poverty. This resulted in several poverty alleviation efforts including microfinance as an alternative intervention to direct aid from the government, the private sector and NGOs. However, despite massive increase in the number of microfinance banks (MFBs) with expanded branch networks and corresponding rise in customer base, the poverty level in the country is still alarming. This study seeks to empirically contribute to the debate on the role of microfinance on poverty alleviation in Northwest Nigeria with moderating effect of entrepreneurial self-efficacy. Quasi-experimental design was used in this study which employed stratified sampling technique to draw the sample from the selected MFBs. A total of 400 MFBs customers served as the treatment group while 200 unsuccessful loan applicants were used as the control group. Out of 600 administered questionnaires 423 were duly retrieved; giving a return rate of 71%. Additionally, during data cleaning nine copies of the questionnaire were considered unsuitable and therefore discarded. Consequently, 414 copies (69%) of the questionnaires were used for the analysis. The treatment group has 277 questionnaires while the control group has 137 giving total usable questionnaires of 414. The data was analysed using standard multiple and hierarchical regression. Findings revealed a significant positive association between microfinance and poverty alleviation; and microsavings have more significant effect on poverty alleviation than microcredit and entrepreneurial skills. Further, the results showed that entrepreneurial self-efficacy wielded moderating influence on only microcredit and entrepreneurial skills. It was recommended that MFBs' training sessions should focus on moral persuasion that will boost entrepreneurial self-efficacy of clients; and compulsory savings should complement credit disbursement so as to enhance its positive effects on poverty alleviation.

Keywords: Microcredit, Microsavings, Entrepreneurial Skills, Entrepreneurial Self-Efficacy, Poverty Alleviation.

ABSTRAK

Nigeria merupakan antara 25 negara paling miskin sejak tahun 2006 dengan lebih 70% penduduknya hidup dalam kemiskinan. Hal ini mewujudkan beberapa usaha pengurangan kemiskinan termasuk pembiayaan mikro sebagai intervensi alternatif untuk menyalurkan bantuan secara langsung daripada pihak kerajaan, sektor swasta dan NGO. Walau bagaimanapun, di sebalik peningkatan jumlah bank mikro (MFB) secara besar-besaran dengan rangkaian cawangannya yang semakin berkembang dan peningkatan yang sama dalam asas pelanggan, tahap kemiskinan di negara ini masih lagi membimbangkan. Kajian ini bertujuan untuk menyumbang secara empirikal kepada perdebatan tentang peranan pembiayaan mikro terhadap pengurangan kemiskinan di Barat Laut Nigeria dengan kesan pengantaraan efikasi kendiri keusahawanan. Reka bentuk kuasi eksperimen yang digunakan dalam kajian ini menggunakan teknik pensampelan berstrata untuk mendapatkan sampel dari MFB yang dipilih. Sejumlah 400 pelanggan MFB dijadikan sebagai kumpulan rawatan manakala 200 pemohon pinjaman yang tidak berjaya daripada MFB yang sama digunakan sebagai kumpulan kawalan. Daripada 600 soal selidik yang diberikan, sebanyak 423 daripadanya dikutip dengan sewajarnya; memberikan kadar maklum balas sebanyak 71%. Di samping itu, semasa pembersihan dan penyaringan data, sebanyak sembilan salinan soal selidik yang dianggap tidak sesuai untuk dianalisis telah digugurkan. Oleh itu, hanya 414 salinan (69%) daripada soal selidik digunakan untuk tujuan analisis. Kumpulan rawatan mempunyai 277 soal selidik dan kumpulan kawalan mempunyai 137 soal selidik yang dapat digunakan untuk analisis. Data yang dikumpul melalui soal selidik berstruktur dianalisis menggunakan piawaian regresi berganda dan berhierarki. Dapatan kajian mendedahkan hubungan positif yang signifikan di antara pembiayaan mikro dengan pengurangan kadar kemiskinan di kawasan kajian, dan turut mendedahkan bahawa simpanan mikro mempunyai kesan yang lebih besar terhadap pengurangan kemiskinan berbanding kredit mikro dan kemahiran perniagaan. Selanjutnya, hasil kajian menunjukkan bahawa efikasi kendiri keusahawanan menunjukkan pengaruh pengantaraan terhadap kredit mikro dan kemahiran perniagaan tetapi tidak pada simpanan mikro. Dicadangkan bahawa MFB menjalankan latihan terhadap persuasi moral yang dapat meningkatkan kendiri keusahawanan klient dan bank memwajibkan simpanan klient untuk meningkatkan kesan positif pembiayaan mikro terhadap pengurangan kemiskinan di kawasan kajian.

Kata kunci: kredit mikro, simpanan mikro, kemahiran perniagaan, efikasi kendiri keusahawanan, pengurangan kemiskinan.

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LIST OF ABBREVIATIONS

ADP	Agricultural Development Program
AP	Absolute Poverty
BRAC	Bangladesh Rural Action Committee
CBs	Community Banks
CBN	Central Bank of Nigeria
CFA	Confirmatory Factor Analysis
DFRI	Directorate of Food, Roads and Rural Infrastructure
DV	Dependent Variable
EFA	Education for All
EBS	Entrepreneurial Business Skills
ESE	Entrepreneurial Self-efficacy
FEAP	Family Economic Advancement Program
FGN	Federal Government of Nigeria
FCT	Federal Government of Nigeria
FSP	Family Support Program
GB	Grameen Bank
GBLP	Go Back to Land Program
GFS	Graduate Farming Scheme
GR	Green Revolution
HDI	Human Development Index
HPI	Human Poverty Index
IFAD	International Fund for Agricultural Development
IRDS	Integrated Rural Development Strategy
IVs	Independent Variables
LICs	Low Income Countries
MDGs	Millennium Development Goals
MFBs	Microfinance Banks
MFIs	Microfinance Institutions
MICs	Medium Income Countries
MPRSF	Microfinance Policy, Regulatory and Supervisory Framework
MV	Moderating Variable

NACB	Nigerian Agricultural and Cooperative Bank
NACRDBL	Nigerian Agricultural Cooperative & Rural Development Bank Ltd
NAFPP	National Accelerated Food Production Program
NALDA	National Agricultural Land Development Authority
NAPEP	National Poverty Eradication Program
NBCB	National Board for Community Banks
NBS	National Bureau of Statistics
NCS	Northern Credit Scheme
NCMLAE	National Commission for Mass Literacy, Adult & Non-Formal Education
NDE	National Directorate of Employment
NGOs	Non-Governmental Organizations
NOAS	National Open Apprenticeship Scheme
NPRD	National Policy on Rural Development
NRDCS	National Resource Development and Conservation Scheme
OFN	Operation Feed the Nation
PAAs	Poverty Alleviation Agencies
PAPs	Poverty Alleviation Programs
PBN	Peoples Bank of Nigeria
PLI	Poverty Line Income
RBDAs	River Basin Development Authorities
REPP	Rural Empowerment Promotion Program
RIDS	Rural Infrastructure Development Scheme
ROSCAS	Rotating Savings and Credit Associations
RP	Relative Poverty
SE	Self-efficacy
SOWES	Social Welfare Service Scheme
SPW	Special Public Works
SSA	Sub-Saharan Africa
SSE	Small Scale Enterprises
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
VSDP	Vocational Skills Development Project
YES	Youth Empowerment Scheme

CHAPTER ONE
BACKGROUND AND MOTIVATION OF THE STUDY

1.0 Background

One of the most challenging obstacles the world has to grapple with is poverty (Haushofer, & Fehr, 2014). Globally, more than 700 million people live in poverty (The World Bank, 2015) and over 80 per cent of African households are excluded from financial services; they do not have bank accounts (Magbagbeola, Adetoso, & Owolabi, 2010). These poor (Africans) are therefore, at the mercy of the few available informal financial service providers such as the periodic saving collectors and money lenders who charge exorbitant interest rates (Belwal, Tamiru & Singh, 2012; Haque, & Yamao, 2008). Although, when the poor accessed credit, they can spend the amount borrowed in an income generating expenditure that can help them to break away from the vicious cycle of poverty (Gupta & Manjunatha, 2013). However, the ambitious Millennium Development Goal (MDG)[1] of halving the population of world poor by 2015 (Benedict, 2011), had been attained as the 2.5 billion people who lived in poverty (Magbagbeola et al. 2010) is now reduced to slightly above 700 million(The World Bank, 2015)

The term poverty enjoys no universally accepted definition [2]as different people view it from different perspectives, conditions and environments (Casimir, Nwaoga, & Ogbozor, 2014). Poverty is a global phenomenon that dates back centuries of human existence and connotes a state of deprivation where individuals or families cannot

[1] In September 2000, the United Nations Headquarters hosted 147 world leaders who adopted a resolution in form of 8 MDGs to address the most challenging problems of humanity. The first of these goals is reducing by half, the proportion of hungry and poor people across the globe by the year 2015.

[2] Scholars give different definitions to the term poverty but none of such definitions enjoys general global acceptability.

afford basic necessities of life such as food, decent shelter and clothing, education and healthcare (Appah, Sophia, & John, 2012). From whichever angle[3] one views poverty- absence of basic needs, loss of human dignity or unimaginable human suffering, the fact remains that chronically[4] poor people live in a world that is not only conscious of their predicaments but is also highly resource-endowed to alleviate their suffering (Prowse, 2009). In America for instance, President Lyndon Johnson's economic adviser (Robert Lampman) postulated that by 1980 poverty would be a word of history in America (Iceland, 2012).

Lampman's assertion was merely a compliment to the then president's declaration of ~~"u~~nconditional war" on poverty in America (Wood, 1982). Decades after this historic declaration of war against poverty in America however, many Americans are not only poor but also hungry (Sawhill, 2008). In President Johnson's words:

> *"We have made considerable progress in reducing the percentage of the population which falls under the official poverty line, but the fact remains that still far too many Americans are hungry and malnourished. And that we have in the last twenty years failed to reduce the proportion of our population which is relatively poor".*

Records show that there was an increase in poverty level in both United Kingdom and United States of America between 1970 and 1980 (Atkinson, 1987). An empirical study conducted by Townsend (1980) attested that the menace of poverty was no different in the United Kingdom (UK) where income level of studied group fell below an acceptable standard as a result of which the sampled group was seen to be in poverty. Decades later however, most developed nations achieved a great victory in their fight against poverty. The average poor family in United States of

[3] Rather than absence or lacking in material needs, some scholars and development practitioners prefer to view poverty from deprivation in non-material well-being such as social and political exclusion.

[4] Chronically poor are also called extremely poor or hard-core poor.

America for example, is not only well-housed but is not hungry and affords amenities such as air conditioning, a computer as well as cable TV (Rector & Sheffield, 2011).

Poverty has been significantly reduced in developed economies as they are highly industrialized and have developed financial markets that facilitate easy mobilization and transfer of funds thereby achieving a greater employment of resources resulting in the presence of relative poverty as against absolute poverty in developing nations (Mohammad, 2011). In United States of America for instance, despite the Census Bureau report that over thirty million Americans are in poverty, Rector and Sheffield (2011) argued that those poor Americans have decent accommodation with chain of conveniences, good nutrition, healthcare and efficient transport. Equally, poverty has been falling in the rest of developing nations with the exception of African continent that is characterized by rising abject poverty for the last quarter century (Collier, 2007; Mondal, 2009). In Sub-Saharan Africa[5] (SSA) which is perhaps the most marginally hit; women have one-in-thirty chance of losing their lives during child birth as against one in 5,600 in developed countries. Worst still, several African children who are fortunate to be delivered alive, do not live beyond four to five years (Banerjee et. al. 2009). The continent has the highest fertility rate globally which in turn results in population explosion with a corresponding chronic poverty, poor health, higher mortality rate and lower life expectancy than other parts of the globe (WHO, 2009).

[5] Part of African continent comprising of 48 countries located south of Sahara including Nigeria.

The chronically poor symbolizes deprivation ranging from starvation, unclean drinking water, illiteracy, insecurity, social stigmatization, political exclusion as well as poor or absence of healthcare services that accounts for many ―preventable death" by simple medication (Hulme & Shepherd, 2003). Hulme and Shepherd further asserted that the world is a host to hundreds of millions of chronically poor people. Therefore, fighting chronic poverty should be of immense significance[6] to present generation. This position is supported by Magbagbeola et al.(2010) in an attention-drawing statement that shows the negative effect of poverty:

> *"The poor cannot sleep because they are hungry, and the rich cannot sleep because the poor are awake".*

In the case of Nigeria, the poverty situation is worrisome: over 70% of Nigerians are tagged as poor but what is much more disturbing is the fact that half of those classified as poor live in absolute poverty (IFAD, 2007). This notwithstanding, the country is one of the largest[7] world oil producers (Ewhrudjakpor, 2008; Babalola et al. 2009) with a population of over 180 million (NPC, 2016) two-third of which are poor, Nigeria is the third[8] country with the highest number of poor people in the world. This is perhaps because poverty is endemic in Africa and Nigeria being the most populous country in the continent (Kibirige, 1997; Obadan, 1996). The poverty problem in Nigeria is further compounded by poor and dilapidated infrastructures, mass illiteracy in addition to low access to formal financial services. It is not surprising therefore, that Nigeria has paradoxically been among the 25 poorest countries of the world since 2006 (Ehinomen & Adeleke, 2012). Consequently, the need arises to embark on measures to address the problem.

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[6] Chronic poverty leads to anti-social behaviors that negatively affect both the poor and non-poor alike.

[7] Nigeria is the 13th largest producer of crude oil in the world.

[8] India tops the list followed by China then Nigeria.

1.1 Problem Statement

The unfinished business of 21st century is eradication of poverty (Benedict, 2011). The international community has been expending enormous amount of resources for the purpose of curbing the menace of poverty (Jachimowicz, 2013). Recently, while assessing the performance of the Millennium Development Goals (MDGs) at the end of the targeted period of 2015 it was observed that the first ambitious agenda (number 1 of the 8 MDGs) of halving the number of global poor was achieved but serious challenge of hunger and poverty remains (World Bank, 2015). Hence, the transition from MDGs to Sustainable Development Goals (SDGs) targeted to be achieved by the year 2030. Globally there are projected over 700 million people who live in abject poverty and much of this figure is concentrated in Sub-Saharan Africa and South Asia (World Bank, 2015).

Nigeria was one of the 50 richest countries during 1970s but is now the 3rd country with the highest number of poor people in the world and has been among the 25 poorest countries since 2006 (Ehinomen & Adeleke, 2012). This prompted the Federal Government (and of course, the private sector and Non- Governmental Organizations-NGOs) to embark on series of poverty alleviation programs (Ojo et al. 2012). These programs include but not limited to several microfinancing schemes aimed at breaking the credit constraint of the poor; improving their productive capacity and income generation; accumulating savings; raising standard of living (Onoyere, 2014) and ultimately reducing poverty level and achieving economic prosperity (Ghalib et al. 2014).

The poor are viewed as risky borrowers by commercial banks on account of their lack of physical collateral and credit history and therefore, are financially excluded (Magbagbeola et al. 2010). Poverty and inability to save make capital accumulation for business undertakings nearly impossible, resulting in the poor wanting to borrow from microfinance banks (MFBs) as last resort as they lack the bridge to cross to the wealthy due to social exclusion (Ashta, Couchoro, & Musa, 2014). Microcredit made available to these risky borrowers by MFBs is intended to provide answer to the problem of financial exclusion and poverty.

The poor find it difficult to save because of their economic disposition, but savings are needed to guard against shocks, provide cover for income and allow for capital accumulation. Tavanti (2013) reported that though the poor suffer from little income, they still save a minute fraction of such incomes and that savings opportunities not only predate microcredit but are more important to the extremely poor. This is because savings shield poor borrowers from falling back into poverty due to uncertainties and emergencies. Additionally, poverty alleviation does not only end with improved economic welfare but also involves creation of a barrier from poverty (Swain & Floro, 2012); savings help micro borrowers achieve this protection (Tavanti, 2013).

Chowdhury (2009) asserted that it is erroneous to assume that MFBs clients are all potential entrepreneurs as most of them do not have the entrepreneurial skills needed to see their micro business through; and attain the motive of higher welfare and poverty alleviation. This lack of business acumen is a major cause of failure of most micro entrepreneurs. Neneh (2012) opined that entrepreneurial success is a function

of business experience especially if such experience is in a particular sector that attracts the prospective entrepreneur. Corroborating this position, Afolabi and Macheke, (2012a) concluded that firms (and hence entrepreneurs) that enjoyed training in business skills were more successful than those without such skills. Microentrepreneurs in Sub-Saharan Africa and other parts of developing world lack the necessary skills needed to effectively manage business ventures. Most of them are not only poor but also illiterates[9] and dwarfed by social exclusion (Ashta, Couchoro, & Musa, 2014) which hampers their skills acquisition. Taking into account the state of acute deprivation being faced by economically active Nigerians, business skills become imperative if microentreprenuers were to succeed. However, the poverty question in Nigeria pushes potential entrepreneurs away from these microfinance factors which can in addition to breaking their credit constraints enhance its positive effect on poverty alleviation (Chowdhury, 2009; Addae-Korankye, 2012; Hadi et al. 2015).

As stated earlier, numerous efforts have been made to fight poverty in Nigeria. However, despite all these laudable poverty alleviation programs embarked upon in the country such as the Nigerian Agricultural and Cooperative Bank, Operation Feed the Nation, Green Revolution, National Directorate of Employment, Family Economic Advancement Program as well as National Poverty Eradication Program, credit schemes to the poor through various specialized institutions like Peoples Bank of Nigeria, Community Banks and several Microfinance Banks; poverty level keeps rising in the country (Benedict, 2011). For instance, the number of people living in poverty increased from 27% in 1980 to 46% in 1985 and from 55% in 2004 to 61%

[9]The literacy rate in Nigeria is 50% (Nwafor & Agi, 2013).

in 2010 (NBS, 2010). Additionally, the number of MFBs with their expanded network of branches keeps increasing at a fast speed across the country with a corresponding rise in customer base (CBN, 2011). Ironically, despite this significant increase in the number of micro borrowers the poverty level remains at alarming level as 70% of Nigerians are living in poverty (Egharevba et al. 2016).

This scenario, gave rise to the debate on the effectiveness of microcredit as an intervention tool for the fight against poverty (Aigbokhan & Asemota, 2011). Whereas some scholars share the opinion that it (microcredit) leads to poverty alleviation as the amount borrowed is meant to finance micro entrepreneurship so as to enhance the productive capacities of the beneficiaries, raise their income level, improve standard of living and hence reduce poverty (see, for example Gupta & Manjunatha, 2013; Khandker, Samad, & Ali, 2013; Taiwo, Ikpefan & Isibor, 2014; Boateng, Boateng & Bompoe, 2015); others believe microcredit given to the poor by MFBs only makes them (poor people) worse off. Hossain (2012) for instance, reported that usurious interest rates charged by MFIs pushes poor borrowers into debt trap as they may end up taking multiple loans to re-pay initial facility enjoyed as not all micro borrowers have what it takes to be entrepreneurs (see, also Chowdhury, 2009; Bateman & Chang, 2012; Jachimowicz, 2013). Similarly, other scholars take to the middle course in the debate: they feel that microcredit as an intervention strategy for the fight against poverty has both positive and negative aspects (see, for example Dobra, 2011; Rooyen, Stewart, & de Wet, 2012). This conflicting literature on the relationship between microcredit as an up shoot of microfinance; and poverty alleviation calls for the need for more research to be conducted (Kaka, & Abidin,

2014; Ali, Ali, & Subhan, 2015). Consequent upon this inconsistency in research findings arise the need to have a moderating mechanism (Zikmund et al. 2010).

These different positions notwithstanding, overwhelming majority of practitioners and researchers alike agree that microcredit alone cannot produce the desired outcome of poverty alleviation. In other words, microcredit is not a silver bullet as shown by empirical studies (see, for example Chowdhury, 2009; Addae-Korankye, 2012; Hadi et al. 2015; Kura, Kuperan, & Ishak, 2017). Thus, there is the need to attach to microcredit other factors that will aid its productivity such as beneficiary's business skills (Hulme & Mosley, 1996), economic growth, education and health (Daley, 2007). In a nutshell, Professor Yunus (2003) sum it up by saying microcredit is no single antidote to the problem of poverty. To quote:

> *~~C~~ombined with other innovative programs that unleash people's potentials, micro credit is an essential tool in our search for a poverty-free world".*

It follows therefore that, microfinance (microcredit plus other services such as microsavings and micro insurance provided to the real poor who are not served by conventional commercial banks) rather than microcredit is the answer. Thus, several combinations of microfinance factors exist in available literature, for example Flavius and Aziz (2011) considered credit and social network; Tavanti (2013) used microcredit, capacity building and social capital; while Hadi et al. (2015) used microcredit and education. Thus, this research work introduced Entrepreneurial Self-efficacy as a moderating variable in the relationship between microcredit, microsavings and entrepreneurial skills; and poverty alleviation in Northwest Nigeria. The use of Entrepreneurial Self-efficacy (ESE) is in conformity with suggestion by Bandura, (2000), and Wieber, Odenthal, and Gollwitzer, (2010).

Again, Tavanti (2010) viewed that the ultra-poor require essential services and confidence building in addition to credit for them to move out of chronic poverty and transit to micro entrepreneurship. Equally, a study on performance of women entrepreneurs who accessed MFI's loans by Ekpe (2011) suggested that future studies in the area of microfinance should examine the role of self-confidence on entrepreneurs' business performance.

Furthermore, the use of ESE as a psychological attribute of micro borrowers gives a fresh perspective on the effect of microcredit on poverty alleviation as previous studies mainly dwell on the supply side: breaking the credit constrain. Iganiga (2008) for instance, viewed that lack of credit for entrepreneurial activity in developing countries results to low income with its accompanying poor standard of living. Hence, those studies paid little attention to the demand side: micro borrowers' inherent abilities which can improve the effect of the availability and accessibility of microcredit.

Several research works are handy on the relationship between one or a mixture of microfinance factors and poverty alleviation (see, for example Flavius, & Aziz, 2011; Tavanti, 2013; Kaka & Abidin, 2014; Hadi et al. 2015) but there is paucity of studies that empirically and jointly link this study constructs as they relate to poverty alleviation especially in developing economy such as Nigeria most especially in the Northwestern part of the country. Thus, by combining microcredit, micro savings, with entrepreneurial skills as independent variables and poverty alleviation as dependent variable alongside micro borrowers' entrepreneurial self-efficacy as a moderator, this research adds to the existing body of knowledge.

Summarily, Nigeria has so far committed huge amount of resources in her effort to address poverty in the country (Anger, 2010); and the unprecedented rise in the number of MFBs and their client base only brings a little change in the state of deprivation in necessities of life faced by 70% of Nigerians (Egharevba et al. 2016). Therefore, this study examines whether a relationship exists between microcredit, microsavings, and entrepreneurial skills; and poverty alleviation in Northwest Nigeria. Equally, this research work investigates the nature of the relationship between the study constructs and moderating variable of entrepreneurial self-efficacy which has not been fully attended to in the literature. This provides a shift from concentration of literature on breaking the poor people credit constraint (supply side) to psychological attributes of poor borrowers (demand side) which can make or mar the basis for obtaining credit from MFBs.

1.2 Research Questions

In line with the research problem, the broad question which the study aims to answer is: what is the effect of microfinance on poverty alleviation in Northwest Nigeria? In addition, the following specific questions were asked so as to guide the study:

1. What is the influence of microcredit on poverty alleviation in Northwest Nigeria?
2. What role do microsavings play on poverty alleviation in Northwest Nigeria?
3. What is the effect of entrepreneurial skills on poverty alleviation in Northwest Nigeria?
4. What is the moderating effect of ESE on the relationship between microcredit, microsavings and entrepreneurial skills; and poverty alleviation in Northwest Nigeria?

1.3 Research Objectives

The goal of this research work is to examine the effects of microfinance on poverty alleviation in Northwest Nigeria, with moderating effect of ESE. In an attempt to help attain this broad goal, specific objectives are developed to sequentially answer the research questions. These specific objectives are stated below:

1. To examine the influence of microcredit on poverty alleviation in Northwest Nigeria.
2. To examine the role of microsavings on poverty alleviation in Northwest Nigeria.
3. To study the effect of entrepreneurial skills on poverty alleviation in Northwest Nigeria.
4. To investigate the moderating effects of ESE on the relationship between microcredit, microsavings and entrepreneurial skills; and poverty alleviation in Northwest Nigeria.

1.4 Significance of the Study

The significance and contributions of this study is viewed from three perspectives: knowledge addition, methodological and practical contributions. As stated earlier, this study attempts to examine the effects of microcredit, microsavings, entrepreneurial skills and the moderating role of ESE on the relationship between microfinance and poverty alleviation in Northwest Nigeria. Evidence from the literature (see, for example Chowdhury, 2009; Bateman & Chang, 2012; Jachimowicz, 2013; Gupta & Manjunatha, 2013; Khandker & Samad, 2013; Taiwo, Ikpefan & Isibor, 2014; Boateng, Boateng & Bompoe, 2015) indicates that the debate on microfinance's impact (positive, negative and mixture of both) on poverty

alleviation continues. This suggests the need for further research in the area and hence this study attempts to fill this observed gap.

Findings of this research also provide a framework that can assist management of MFBs to design programs that will enable micro entrepreneurs to appreciate how ESE can lead to increased profit and overall welfare. The study will be of benefit to Nigerian policy makers especially the Central Bank of Nigeria (CBN), in designing policies that aid smooth operations of MFBs which will have a multiplier effect on job creation, poverty reduction and consequently a better Nigerian economy.

1.5 Scope of the Study

The study focuses on the examination of the relationship among the main variables: microcredit, microsavings, entrepreneurial skills, entrepreneurial self-efficacy and poverty alleviation. MFBs' customers are the target population of this research. These customers refer to those that received credit from any of the eight MFBs who formed the experimental or treatment group; and those who did not receive any credit and therefore, constituted the comparison or control group. Subjects of the two groups are characterized by their absolute poverty status and their desire to break the chain of poverty by going to these MFBs for credit so as to enhance their productive capacities and raise their well-being. Thus, customers of commercial banks and other financial institutions do not fall within the purview of this study. The relationship among the variables under consideration, are viewed from the perspective of the existing poor borrowers. Thus, all would- be or rather potential borrowers do not fall within the scope of this research work. Additionally, the focus of this study population is in Northwest region of Nigeria.

1.6 Thesis Outline

Subsequent chapters of this research are structured as follows: the second chapter gives a review of relevant literature in addition to underpinning theories on financing constraint, poverty; and self-efficacy. Chapter three outlines the methodology employed with regard to population of the study, sampling technique, data collection as well as method of data analysis. Chapter four dwells on results and discussion of the data analysis. Finally, chapter five centers on conclusion and summary of findings. The chapter also gives limitations of the study and provides suggestions for future studies.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

Many researchers use poverty alleviation as a dependent variable in series of developmental studies (see, for example Boateng, Boateng, & Bampoe, 2015a; Chowdhury, 2009b; Enisan & Oni, 2012; Jachimowicz, 2013; Nawaz, 2010). This may not be divorced from the fact that poverty is today, a major global problem the international community is trying to address by employing series of intervention approaches (Naiya & Manap, 2013). Microcredit is one of these interventions that are primarily given to targeted group (the poor) so as to make them self-employed and break the chain of poverty (Gupta & Manjunatha, 2013).

This chapter highlights the theoretical underpinning of the study and gives a review of various relevant literatures on microfinance and its impact on poverty alleviation. The chapter is broken down into six subsections. The first subsection deals with the theories linked to this study while the second subsection dwells on conceptual explanation of poverty and microfinance from global perspective followed by detailed discussion of both concepts in the context of Northwest Nigeria, being the area of study. The third subsection appraises the influence of microcredit on poverty alleviation. The fourth and fifth subsections review the effect of microsavings and entrepreneurial skills on poverty alleviation respectively. The last subsection examines the moderating effect of microcredit borrowers' (entrepreneurial) self-efficacy (ESE) on the relationship between independent variables (microcredit, microsavings and entrepreneurial skills); and poverty alleviation.

2.1 Underpinning Theories: Financing Constraint, Poverty and self-efficacy

The idea behind use of theories in researches is basically to shape and direct the path of the study in such a way that overall research objectives can be achieved. In this study, Financing Constraint Theory, Cyclical Theory of Poverty as well as Theory of Self-efficacy are used. These theories are discussed below:

2.1.1 Financing Constraint Theory

Finance is viewed as a corporate factor input in microeconomic theory; and businesses (micro, small or large) need it for start-up or expansion, meeting capital expenditure as in fixed assets acquisition as well as buying consumables meant for business operations (Kuzilwa, 2005). The fact however is, most poor in developing countries lack access to finance (Magbagbeola, Adetoso & Owolabi, 2010). This lack of access to credit is the main constraint that blocked the development of small enterprises (Kuzilwa, 2005) and therefore, aggravates the twin disasters of unemployment and poverty. The Financing Constraint Theory was developed by Fazzari, Hubbard, and Petersen in 1988. The theoretical underpinnings of the Financing Constrain approach come from development in investment literature. Cleary, Povel & Raith(2007) for example, assert that for a positive or slightly negative level of a firm‘s wealth investment is positively related to internal sources of funds. The Financial Constraint Theory examines variations in sensitivity of investment to internal funds in firms with different levels of informational opacity by segregating a group of firms under study into subsamples based on predetermined theoretical assumptions that distinguish financially constrained firms from unconstrained ones using for instance, parameters of firm‘s size and age. For each sub-sample, a reduced-form investment equation is estimated where a firm‘s

investments are determined by its internal funds, which are given as total revenues less expenses plus taxes and used as a substitute for changes in net worth, as well as controls for firm-specific attributes and investment opportunities determined from different theoretical perspectives(Fazzari, Hubbard, & Petersen, 1988).

This theory has been used in developing countries to study small and medium enterprises (Abiola, 2011). Similarly, this study adapts the financing constraint approach to examine the effect of access to microcredit provided by the six MFBs in addition to the factors of microsavings; and entrepreneurial business skills as well the moderating influence of ESE on the relationship between the independent variables and poverty alleviation. Consequently, sample customers of the MFBs under study are grouped into two: those who obtained loans known as treatment group which will serve as credit unconstrained; and those who have not received any loan referred to as control group representing the credit constrained.

The relevance of the Financing Constraint Theory to this study is glaring owing to the various development literature that point to the non-readiness of the formal banking sector to avail credit facilities to the poor who have neither suitable collateral nor credit history which in turn makes them risky borrowers (Aigbokhan & Asemota, 2011). Consequent upon this, only 20 percent of African households enjoy financial services as the 80 per cent have no bank accounts; they are financially excluded and hence credit constrained (Magbagbeola, Adetoso, & Owolabi, 2010). Furthermore, as credit constrained, the poor finds it difficult to break the shackle of poverty and escape its vicious cycle. Hear Adam Smith:

Money, says the proverb, makes money. When you have got a little, it is often easy to get more. The great difficulty is to get that little.

To this end therefore, breaking the financing constraint will enhance the ability of the poor with entrepreneurial intention to grab business opportunities and improve their wellbeing through successful venture undertakings (Kuzilwa, 2005).

2.1.2 The Cyclical Theory of Poverty (Major Theory)

The theory of interlocking, circular, interdependence within a process of cumulative causation developed by Myrdal (Myrdal, 1957) provides the root for the cyclical poverty theory (Bradshaw, 2007). The assumption that circular causation among all factors in the social system causes a cumulative process is the main hypothesis of Myrdal's model which he used to explain the ever-increasing wide gap between the industrially developed (rich) and underdeveloped (poor) nations. Myrdal viewed that social reality as a social process do not follow a direction, nor approach automatic self-stabilization. Rather on the contrary, the system is constantly on the move away from a balanced state between forces, as a change supports new changes, moving the system in a circuitous way in the same direction as the first change but in an accelerated form. This is what Myrdal refers to as the principle of circular and cumulative causation, which is the base of a theory that, he asserts, has "validity over the entire field of social relations" and should be the main theory when economic underdevelopment and development are studied. To illustrate this model of circular causation, Myrdal gave an example of how "white prejudice", which creates discrimination against black people, and "low plane of living" of the black population, are two mutually interrelated forces that cause each other.

Employing Myrdal's theory of interlocking, circular interdependence within a process of cumulative causation, one can explain how countries experience regional

economic inequalities. As an illustration, Myrdal uses the example of a factory accident which leads to unemployment, and decreases incomes and demand, which in turn leads to lower incomes and unemployment in other businesses as well, creating a vicious circle of poverty; a process of circular causation. The argumentation is not only valid for downward cumulative processes, but for upward ones as well. If, for example, a factory is placed in a specific community, then labour, capital and enterprise are attracted from outside, which increase incomes and demand as well as profits, savings and investments.

The cyclical theory of poverty encompasses the conservative individualistic as well as the structural dysfunctional school of thought as it views poverty as a product of the fusion of individual attributes and economic, political and social systems which deprive the individual from opportunities that will generate income and raise wellbeing. Thus, societal resources and condition of individuals within the society are never mutually exclusive but depend on each other. An economy that is full of flaws can deprive its people from having access to its productive resources thereby denying them economic participation that will result in lower tax revenues (Bradshaw, 2007). A close link therefore, exists between individuals‘ personal problems and community‘s problems and so is the wellbeing of the community linked to that of individuals.

The focus of this theory is both individual and the community as they operate in the spheres of problems and opportunities and that once problems pick up dominance they block other opportunities and produce other chain of problems that make an effective solution nearly unattainable. This is what Bradshaw (2007) described as a

poverty caused by cumulative and cyclical interdependencies referring to cycle of poverty caused by twisting of opportunities and greater problems that engulfed both the individual and the community. Accordingly, the interdependence of causes of poverty actually quickens once a cycle of decline is initiated.

This cycle of poverty at the individual level may be shown as joblessness, for instance, that results into little or absence of income which hampers both consumption spending and savings for investment. Thus, there will be lower economic activities which will further compress community opportunities. Equally, deprivation in form of healthcare, decent accommodation and children's education compounds the miserable status of the poor. Thus, the circle catches up with the children who as a result of poor educational background further fall behind in terms of availing themselves to job vacancies (Bradshaw, 2007). Similarly, the cycle of poverty negatively affects the individual's self-confidence, kills his motivation for success and creates depression leading to a culture of despair and poverty. This suggests that poverty is multifaceted; its causes are many but most efforts geared toward its alleviation pay attention to only part of these causes for a solution. The interdependence of the factors that result to poverty requires a multifaceted effort to fight the scourge. Breaking the cycle of poverty provides a better solution to poverty than most other efforts that reduce poverty but left the cycle to continue. With the chain broken, the poor would be made to attain self-sufficiency which is vital to poverty alleviation.

In sum, the Cyclical Poverty Theory takes into account not only the individuals' limitations but also the economic, political, and social system which put them at

disadvantage in terms of limited opportunities and resources with which to achieve income and wellbeing. It shows how economic, political and social exclusion negatively affects the psychological abilities of the individual. These various deprivations reinforce one another as they are linked with each other creating a chain that becomes difficult to break. This theory therefore, depicts how not only individual deficiencies but an array of economic and social factors intertwined to produce cumulative effects that result in chain of events (hence, the cycle) that makes persistence poverty to be passed from one generation to another. This is because multiple problems cumulate and creates a spiral which needs to be broken for the cycle to stop. However, the cycle of poverty persists due to the link each component of the circle has on the other (Bradshaw, 2007).

The choice of the Cyclical Theory of Poverty to help guide this study is informed by its comprehensive explanation of the linkages of factors that cause poverty: the problem of individual like low or absence of income, illiteracy, poor dietary, healthcare, housing and self-confidence are not only interdependent but are also strongly linked to community problems including but not limited to business failures and loss of jobs, low tax revenues as well as absence or poor social services (Bradshaw, 2007).

2.1.3 Self-efficacy Theory (SET):

This theory was developed by Albert Bandura in 1977 and has been applied in different human endeavors. SE refers to an individual‘s confidence in his ability to perform a given task (Schunk, & Pajares, 2010). The theory hangs on social cognitive theory and asserts that the fusion of environmental factor(s) with personal

characteristics of individuals shape their achievements (Morris & Usher, 2011). SE stands for a person's belief (perceived capability) that he can perform a given task successfully (Lunenburg, 2011). This perception of an individual abilities determines the type of life (active or passive) such individual lives. It follows therefore, that an individual with a positive high SE about a task at hand will withstand challenges associated with the task and aim at achieving his goals sometimes through behavioral self-regulation (Schunk & Pajares, 2010). Bandura (1997) asserted that SE is a domain specific. This suggests that it is applied to different aspects of life – research, transportation, pain and entrepreneurship.

Entrepreneurial self-efficacy (ESE) is therefore, a term that stands for the strength of an entrepreneur's belief that he/she is capable of successfully performing different tasks of entrepreneurship (Laguna, 2013). These tasks are that of deciding what form of production to be engaged into, controlling and supervising other employed resources (men, money and material) as well as taking risks that are associated with venture. SE does not make one a "master of all" activities. Rather, a person may have high SE in a given field but low in other fields and situations (Wilson et al. 2007). Thus, a microcredit beneficiary with high ESE has the tendency of persevering and persistently face business challenges especially at its embryonic stage when challenges are at their prime (Fobes, 2005). Therefore, the perceived belief of one's abilities to successfully establish and manage an entrepreneurial undertaking is measured by the construct of ESE (Mcgee et al. 2009). Additionally, Cassar and Friedman, 2009; Izquierdo and Buelens, 2011; Laguna, 2013 are among scholars who show a positive effect of ESE on starting and successfully running a business venture.

2.2 The Concept of Poverty

There is consensus among economists that in the modern world, poverty has no definite meaning, but it is clarified in various ways (See, for example Mohamed et al. 2011; Justine, Ighodalo & Okpo, 2012; Casimir, Nwaoga & Ogbozor, 2014). This position is shared by Benedict (2011) who viewed that poverty affects all angles of human life: economic, political, social, physical and psychological. How poverty is being defined depends on from which angle it is viewed and the criteria used in its conceptualization. According to Morduch & Haley (2002), the meaning of the term poverty and its appropriate means of measurement in addition to a deserving description of who a poor person is, becomes a subject of hot debate among scholars and practitioners. The argument here is whether poverty is to be viewed from the angle of material well-being as measured by income which determines what a person or household consumes or from a much wider view of needs that enhance well-being. Furthermore, an individual's condition and environment greatly affect how poverty is being defined (Casimir et al. 2014). Also, the type of definition given to poverty indicates how it is measured.

Ugoh & Ukpere, (2009) view that poverty is multidimensional phenomenon and symbolizes absence or low income, malnutrition, poor, dilapidated or near absence of social amenities including healthcare resulting in high mortality as well as low life expectancy. Poverty is a state in which an individual who cannot find job is hungry, lacks decent accommodation and is unable to read or write (World Bank, Report of 1990). The report further asserts that poverty is characterized by unemployment, inability to have access to basic services such as healthcare, education and security in addition to social stigmatization and political exclusion. This broader view therefore,

emphasizes on absence of any of the basic capabilities that are required to enjoy minimal functioning in a society. Similarly, Kaka and Abidin (2014) describe poverty in terms of resources (economic, social and political) insufficiency as a result of unemployment and lack of income-generating investment due to absence of capital that is aggravated by cultural and religious practices. Supporting this view, Mohamed et al. (2011) asserted that the monetary approach of defining poverty produces two distinct types of poverty. These are absolute and relative poverty which are discussed below:

2.2.1 Absolute Poverty (AP):

The idea of absolute poverty[10] is a brain-child of Booth Charles who conducted a study on income of School Visiting Board in the year 1887. In the study, members family size (number of children), type of employment, living conditions as well as low weekly wages were employed to define poverty (Laderchi, 2000) cited in Mohamed et al. (2011). Again, unemployed persons who exhibit rehabilitation-seeking social behaviors such as gambling and drug addiction were classified as poor. Individuals in this latter group or those with six children and whose wages fell below eighteen pennies were seen as poor and therefore, given concession in paying children school fees. However, it is a well- known fact that those antisocial behaviors are not peculiar to the unemployed and as such could not suitably be used to define who a poor is.

In the year 1889, the work of Booth was expanded by Rowntree who added to income used by Booth; food, shelter and clothing as part of basic needs. Income that is needed to meet these basic needs is referred to as poverty line income (Ragayah,

[10] Absolute poverty is synonymous with extreme poverty and is often used interchangeably.

2010). Today, the poverty line income (PLI) is a popular parameter that is extensively used in poverty measurement worldwide (Edward, 2006). Explaining poverty using the PLI produces AP. Next, an individual or a household whose income falls under the poverty line is considered as poor (Alkire & Foster, 2011). The extremely poor is therefore, a person or individual who does not command resources to take care of his or her basic needs (Mohamed, et al. 2011). Ragayah, (2010) further observed that the AP approach applies to underdeveloped countries where the primary concern is to have minimum standard of living and ensure that no member of the society or rather citizen of the country falls below that standard. Generally, a person who survives on less than USD 1.90 per day is said to be below the poverty line and therefore, in AP (World Bank, 2015). From the foregoing, one can easily deduce that the monetary or income measure which applies poverty line attempts to isolate those who are poor from those that are not (Ehinomen & Adeleke, 2012).

2.2.2 Relative Poverty (RP)

Unlike absolute poverty, RP is used to describe poverty in developed countries where the level of poverty is not as stricken as it is in underdeveloped and developing nations (Ragayah, 2010). Each country has its own per capita income[11] and, any of her citizens who earns less than one third of the country's average per capita income, is poor relative to others in that same country (Imhanlahimi & Idolor, 2010). In RP approach income of an individual or household is viewed from a comparative economic angle rather than absolute PLI. RP is a measure of poverty where poverty line is defined taking into account average standard of living of a society or country

[11] _Per Capita' is a Latin word that literally stands for _by head' and means per person. Income per capita refers to average income per person in a country and it is obtained by dividing total income of the country by its population.

in a particular period. This suggests therefore that, a relatively poor person in one country may not at all be poor in another country; hence the relativity which in turn indicates that the RP approach views poverty from income inequality perspective.

RP approach has certain limitations: it may not clearly give an exact picture of the poverty level of individuals within a country over a given period. In fact, unless relative income distribution varies, the RP measure cannot depict an increase or decrease in poverty. In addition, the approach ignores the positive impact of economic growth on poverty reduction but rests on the notion that only improvement in inequality reduces poverty; a fallacy that is far from being true. These short comings notwithstanding, the approach has been hailed for recognizing the dynamic nature of the contemporary societal living standard (Belhadj, 2011). Moreover, RP has bearing with the AP line which in itself is not perpetual. It varies with changes in a country's standard of living as depicted by changes in consumption patterns. Consequently, in the long run the AP line metamorphoses into RP line (Kakwani & Sajaia, 2004) cited in Ragayah, (2010). In a nutshell, these measures can be said to be economic and non-economic poverty indicators which are intertwined and therefore bore bearing on each other. Additionally, it is true that as a multi-dimensional phenomenon poverty encompasses both economic and non-economic attributes, a combination of both measures gives a better definition and measurement (Sumner, 2007). The table below gives a summary of how poverty was viewed and measured during 1950s up to 2000s:

Table 2.1
Concept and measurement of poverty between 1950s and 2000s

Period	Concept of poverty	Measurement of poverty
1960s	Economic	GDP per capita growth
1970s	Basic needs (including economic)	GDP per capita growth + basic goods
1980s	Economic	GDP per capita
1990s	Human development (incl. economic)	UNDP Human Development Indices
2000s	Multi-dimensional ‗freedom'	Millennium Development Goals

Source: Sumner, (2007)

2.3 Global Poverty Trend

The menace of poverty is felt globally; of course, it is more severe and pronounced in some countries (developing nations) than in others: richer countries which are not spared as well (Mondal, 2009). According to Magbagbeola, (2010), one –third of the world population lives in poverty. Presently, no country no matter the level of its advancement can rightly raise its shoulder and boast of totally wiping poverty from its territory. This is because in any given country no matter what, some people are relatively poor at one time or the other due to huge income discrepancies (Hossain et al. 2009) thereby contributing a portion to the one- third of the global poor. Ravallion, Chen and Sangraula (2007) submitted that one-quarter of the one-third global population categorized as poor resides in urban areas and that within a period of ten years (1993-2002) there was a decline in the proportion of absolute poverty in rural areas. They further asserted that the condition is different in urban areas as the number of the poor who live below $1 a day PL rose by 50 million.

The categorization of poverty is not only limited to rural- urban dichotomy within a country but also along such lines as to whether the country is classified under low income country (LICs) or median income country (MICs). In this light, Sumner (

2010) opined that as at 1990, LICs were home to 93 per cent of the poor globally but that those countries have now changed into MICs necessitating a shift in world attention on poverty problem. Sumner also indicated that between 2007 and 2008 only one out of four world poor lived in LICs but the remaining three quarters lived in MICs. Ordinarily, common logic should contradict the paradoxical shift: as countries move from low income to medium income, the number of poor they host should decline. Regardless of this empirical description of countries as low or median income, the reality on ground is too many people are in either abject, chronic or relatively mild poverty (Chen & Ravallion, 2010).

However, each country has its level and severity of poverty. In fact, some people are only described as poor relative to others in their country. In United States of America (USA) for instance, poor families are well-housed, have efficient health care at their disposal and accumulated cash savings large enough to take care of their basic needs (Rector & Sheffield, 2011). Rector and Sheffield further said that while the ‗conventional poor' faces dietary problem by not having enough and well-balanced diets, the poor in America is faced with the problem of overweight because of eating too much.

According to the World Bank (2015), there are over 700 million people living in poverty worldwide. Segmenting the world into continents shows that Africa has the worst record of poverty. The continent is characterized by violent conflicts fueled by greed of the ruling elites. Consequently, these conflicts not only cause but also aggravate the continent's poverty level (Draman, 2003). The Sub-Saharan part of Africa where Nigeria is situated has the highest incidence of poverty with over 300

million people living in extreme poverty (NDHS, 2013). A review of list of countries with highest number of poor people shows India as number one, China is second followed by Nigeria, being the third.

Nigeria, the most populous country in Africa has been classified by the United Nations Human Poverty Index (HPI) in 2006 as one of the 25 poorest countries of the world (Ehinomen & Adeleke, 2012). This unfortunate categorization of the country is rather ironic: the country is highly endowed with vast natural resources both human and material (Amadi & Abdullah, 2012) that are supposed to be harnessed for economic growth and development which has a positive multiplier effect on citizens well-being. Indeed, it is this ‗poverty in abundance' that earned the country a befitting description of ―rich country full of poor people". Justifying this description, Obadan (1996) stated that Nigeria generated over US$300 billion from crude oil exportation alone during the last three decades, yet Nigerians are subjected to excruciating poverty. The population projection of 2016 puts Nigeria's population at over 160 million (NPC, 2016). With over 70 percent of the population living on less than US$1 a day, AP remains a long – standing problem that Nigerian government and its people are facing throughout the country (Ehinomen & Adeleke, 2012).

Whereas many countries have transformed from LICs to MICs, Nigerian situation is the opposite: from being a MIC in 1980s, Nigeria dropped to not only LIC but also one of the poorest in the community of poor nations (Benedict, 2011). Thus, in terms of human development, the United Nations HDI ranked the country as the 156th among the poorest countries of the world. Consequently, joblessness, hunger,

ill-equipped or complete absence of health care facilities, insecurity, dilapidated infrastructures, high maternal mortality, low life expectancy as well as other forms of deprivations lend a true picture of who a hard core poor Nigerian is (World Bank, 1996). With this ‗misery in the midst of abundance', Nigerian government embarked upon series of programs at different time period with ultimate goal of reducing the ever-increasing poverty in the country (Ugoh & Ukpere, 2009).

2.4 Poverty Alleviation in Nigeria

Bamiduro, and Gbadeyan (2011) view that any measure(s) taken by individuals, governments at various levels as well as nongovernmental organizations (local or international) for eradication or reducing the menace of poverty in a society or country is known as poverty alleviation (PA). It is any effort from any source that aims at positive change in the conditions of the poor (Imhanlahimi, & Idolor, 2010). Basically, alleviation of poverty is characterized by empowerment. And as noted by Innocent, (Innocent, & Eikojonwa, 2014) just like poverty itself, empowerment is also multi-dimensional as it results in complete overhauling (economic, social, political and psychological) of the miserable status of the powerless poor. PA takes center stage as a global development challenge. With this objective in mind, the international development community is not interested in reducing poverty only, but has such agenda as one of its main focus (Chandy & Gertz, 2011).

Broadly, poverty reduction strategies can be categorized into four. These categories according to Ogwumike, (2002) and cited in Appah, Sophia & John (2012) are: (i) Basic Needs; (ii) Targeting; (iii) Economic Growth and (iv) Rural Development strategies. The Basic Needs Strategy focuses on how basic necessities of life are

made easily available to the poor. These needs include food, decent shelter and clothing, healthcare, water, education and security or safety from physical harm. Targeting as a poverty reducing strategy implies that a particular identified group with unique characteristics becomes the center stage in the process. Thus, groups such as people with disability (deaf, blind, cripple etc.), women, youths or particular artisan may be the focus. Similarly, where emphasis is on factors such as health, nutrition, education or training that result in human capital formation and development, the strategy becomes that of economic growth. Rural Development Strategy on the other hand pays attention to empowering rural dwellers through creating opportunities for income generating, needs attainment and improvement in wellbeing.

According to Smith (1776), no society (nation) will achieve prosperity and happiness when majority of its citizens are in poverty and misery. More than 70 percent of Nigerians are in absolute poverty and 92 percent are living below the poverty line (Ogunrinola, 2011). This suggests that there are more than one hundred million poverty stricken Nigerians. This figure can be contrasted with 67 million Nigerians that were described as poor in 1996 (Benedict, 2011). It becomes clear therefore, that the number of people living in poverty in Nigeria is more than one-third of the total for other countries in Sub-Saharan Africa put together. Accordingly, it becomes imperative that poverty alleviation measures be put in place to address the scourge. In this light, Samavia (1995), cited in Benedict, (2011) submitted that eradication of poverty remains the task at hand for the 21st century.

2.5 Poverty Alleviation Strategies in Nigeria

In an attempt to slay the dragon of poverty in Nigeria, the Federal Government (FG) for over four decades introduced various programs at different time intervals. These programs were designed in such a way that their impact is felt by all sectors of the Nigerian economy. However, several poverty alleviation agencies (PAAs) and institutions existed prior to 1999 when a Presidential Panel was established and charged with the responsibility of streamlining and rationalizing them (Ojo et al. 2012). Not until 1999, Nigeria has had various military and civilian administrations since attainment of independence in 1960. And each regime will not see reason in continuing with a poverty reduction program initiated by its predecessor (Bamiduro & Gbadeyan, 2011).

The following poverty alleviation programs were undertaken by the Federal Government of Nigeria (FGN) as an indication of its commitment to alleviate poverty in the country (Ojo et al. 2012):

2.5.1 Nigerian Agricultural and Cooperative Bank (NACB) of 1973:

According to International Fund for Agricultural Development (IFAD, 2007) poverty in Nigeria is more noticeable and dominant in rural than urban areas; with almost all rural dwellers living on subsistence agricultural practices. Waheed et al. (2013) stated that agriculture and rural development which is a vital factor in poverty reduction became the focus of poverty alleviation programs (PAPs). The first set of PAPs was the National Accelerated Food Production Program (NAFPP) conceived by General Gowon's led military administration in 1972 followed by NACB in 1973 (Innocent, Otaida & Eikojonwa, 2014). The establishment of

agriculture-devoted-funding NACB thirteen years after attainment of Nigeria's nationhood was meant to boost agricultural production through sectorial credit allocation to individuals and group of farmers, cooperative societies, registered firms as well as various levels of government. Under this initiative, 318,000 small scale farmers benefitted from an interest-free loan of about N5.8 billion; then, an equivalent of over $7 billion (Ojo, et. al, 2012). The NAFPP failed woefully as it recorded barely any achievement (Innocent, Eikojonwa & Enojo, 2014). This failure manifests in Nigeria's continued reliance on food importation as NAFPP was hastily conceived and poorly implemented. NACB on the other hand, faced series of challenges in that its loan disbursements through selected commercial banks generated no return (as the loan was interest free) coupled with the fact that even the principal amount became trapped in the selected commercial banks which turned out to be distressed and liquidated (Justine, Ighodalo & Okpo, 2012).

2.5.2 Operation Feed the Nation (OFN) of 1976:

The coming of General Obasanjo on stage after the brutal assassination of Ramat Mohammed saw the introduction of the over publicized and poorly initiated OFN. As the program's name implies, it was as a result of the failure of agricultural sector to meet the nation's food demand that called for its introduction. Under this program, graduates from tertiary institutions (mainly universities and polytechnics) regardless of their area of specialization were drafted and mobilized to rural areas to educate subsistence farmers on modern farming practices (Innocent, Otaida & Eikojonwa, 2014). The program was of course, deemed to fail as those graduates were ill-prepared.[12] Also poor outreach of the targeted program participants aided by

[12] The scenario was that of _teach what you do not know' as a history or accounting graduates were asked to teach best agricultural practices to peasant farmers.

administrative bottleneck immensely contributed to the failure of this initiative. Thus, two years later, despite the resources that were committed in the program, no success was recorded. This led to establishment of the Green Revolution.

2.5.3 Green Revolution (GR) of 1979:

Green Revolution was a brain child of Shehu Shagari's led civilian government that was introduced in 1979 and abruptly terminated in 1983 when the government was toppled in a military coup de tat. According to Innocent, Eikojonwa and Enojo, (2014) the GR was established to achieve dual goals: to increase crop and fibre production and cut down food importation to minimal level. The program prophesized agricultural mechanization and within three years of existence consumed a tidy sum of N2 billion (equivalent of about $2.5 billion, then). When GR was truncated by General Buhari's government, it was quickly replaced by Go Back to Land Program (GBLP). Various state governments adopted different nomenclature for the GBLP without digressing from the targeted objective. In Lagos State for instance, it was called Graduate Farming Scheme (GFS) but School to Land Program (SLP) in Rivers State (Innocent, Eikojonwa & Enojo, 2014).

2.5.4 National Directorate of Employment (NDE) of 1986:

The British colonial masters instituted an educational system that will satisfy their need for middle cadre man power mainly for clerical and administrative functions (Okonkwo & Ezeh, 2008) . Accordingly, after independence, as observed by Adebisi and Oni, (2012) the same educational system which neglected vocational skills acquisition continued to prevail. This, in turn produced a stream of unemployed graduates without employable skills.

The promulgation of Decree number 24 in October 1986 saw the establishment of the NDE by General Babangida's led military junta that is famous for designing attractive paper policies and very unpopular in having political will to implement such policies. And as argued by Anger, (2010) mere paper policy cannot solve the problem of poverty in Nigeria. Ojo et al. (2012) submitted that NDE was established for the purpose of skills acquisition so as to reduce over reliance on government white collar jobs that were not available; and provide easily accessible records of both unemployment and scarce vacancies in the country. Thus, the program is deeply rooted in the philosophy of self-reliance through viable venture ownership which provides self-employment rather than wage earning employment (Adebisi & Oni, 2012).

According to Oyeranti and Olayiwola (2005), the NDE focuses its attention on four main programs which include Rural Empowerment Promotion Program (REPP), Special Public Works (SPW), Small Scale Enterprises (SSE) and Vocational Skills Development Program (VSDP) which comprises of 80 different trades that are imparted through the following schemes:

2.5.4.1 The National Open Apprenticeship Scheme (NOAS):

Here, craftsmen from various trades (welding, tailoring, sculpture, photography, carpentry etc.) are allocated a number of trainees (apprentices) for them to learn the skills of the master (craftsman) for a period of not less than six months and not exceeding three years. Additionally, apart from craftsmen companies, government ministries and departments also receive a share of the apprentices for this scheme.

This scheme is credited with creation of several employment opportunities for teaming young Nigerians who were trained in different form of self-reliance skills.

2.5.4.2 The Re-settlement Scheme:

This scheme was introduced with the aim of supplementing the NOAS efforts by helping the trained internes who are unemployed after the scheme and unable to establish their own ventures. Those who succeeded in setting up businesses can equally benefit from professional management advice on how to become successful entrepreneurs. This scheme recognizes the fact that NOAS does not end with establishing micro service providing businesses but with sustaining and expanding them. The scheme thus, provided follow-ups and expert advice on best management practices for the internes.

2.5.4.3 The Waste-to-Wealth Scheme:

This involves training of selected interested beneficiaries on how to turn ―rubbish" into wealth. For instance, training may be given on how to re-cycle waste polythene bags into household plastics. Additionally, waste cane containers may be used to produce simple ornaments and other valuables like key holders. This scheme helps in achieving dual goals of employments generation which produces income while attaining cleaner environment.

2.5.4.4 The School on Wheel Scheme:

Remote rural areas benefit from this scheme in that vocational training is provided with the use of mobile workshop that is hauled to the rural area and towed back to the Directorate's office on completion of the training exercise. Thus, the absence of

structures needed for skills learning is taken care of thereby allowing rural dwellers to benefit from the Directorate's activities and become self-employed.

It was on record that the NDE scheme provided employment opportunities to more than 2 million unemployed job seekers through training in various skills and a sizable number of trades; aided the establishment of many small scale ventures for self-reliance and business training to many Nigerians (Innocent, Otaida & Eikojonwa, 2014). Ojo et al. (2012) argued that even though, NDE is one of the longstanding[13] intervention strategies in Nigeria; with wide spread presence, it suffers from poor funding, loans recovery difficulty and poor records management. In addition, the scheme has been into skills acquisition, business training, credit disbursement as well as procuring and disposing agricultural inputs like pesticides and fertilizers thereby having a lot to chew at a time (Innocent, Elkojonwa & Enojo, 2014). These shortcomings notwithstanding, the Directorate, with its so many years of experience in the field of battling unemployment, is a good avenue for creating employment opportunities for poverty reduction in the country (Justine, Ighodalo, & Okpo, 2012).

2.5.5 Directorate of Food, Roads and Rural Infrastructure (DFRRI) of 1986:

This is a strategy that was introduced the same year as NDE with the aim of providing rural infrastructures inform of roads, clean drinking water, sanitary facilities as well as electricity to rural dwellers (Ojo et al. 2012). DFRRI was firstly, saddle with the responsibility of reducing rural-urban migration by making rural areas not only humanly habitable but also attractive through provision of qualitative rural infrastructures. Secondly, the Directorate was tasked to improve rural way of life by enhancing agricultural production techniques so as to raise output and income

[13] The Directorate still exists though, barely non-operational.

and thus, bridge the income inequality that exists between rural and urban dwellers (Oyeranti & Olayiwola, 2005).

Investment in rural roads has a profound positive effect on poverty alleviation. This is attested by a study using household-level panel data in Bangladesh by Khandker, Bakht and Koolwal (2006) who concluded that rural roads significantly reduce costs associated with input acquisition and general transportation, increase rural agricultural production and result in better output prices in addition to enhancement in children schooling. The rural poor therefore, gain more from investment in roads than their non-poor counterparts. DFRRI, as opined by Ojo et al. (2012) provided potable water and rural electrification and also succeeded in building a lot of feeder roads across the country. The Directorate also assisted in the realization of the need for an Integrated Rural Development Strategy (IRDS) which resulted in the draft National Policy on Rural Development (NPRD).

Similarly, in a study conducted by Gibson and Olivia (2010) using a sample of 4,000 rural Indonesian households, conclusion was reached that countries will derive benefits if they employ strategies that improve access and quality of rural infrastructures. DFRRI therefore, attempted to positively enhance the living condition of rural dwellers by making such areas accessible and more habitable (Nwachukwu, 2007). Regrettably however, the Directorate did not enjoy local support and acceptance as community leaders were not carried along for them to properly mobilize their subjects towards the success of the program (Justine et al. 2012). In addition, the scope of operations of the Directorate that spanned across all

areas of rural development was clearly too large for efficient coordination and management; and that was further compounded by corruption (Ugoh & Ukpere, 2009

2.5.6 River Basin Development Authorities (RBDAs) of 1977:

According to International Land Coalision- ILC (2014), RBDAs are not new development as they have been employed by many countries such as USA, Lesotho and Egypt as development strategy with impressive outcomes. In order to enhance food production and put in place rural infrastructures across the country, eleven River Basin Development Authorities were created in the year 1977 (Oyeranti & Olayiwola, 2005). Ojo et al. (2012) reported that RBDAs were famous in sinking and maintenance of bore-holes, construction of concrete well, dams, drainages as well as irrigation systems. They were formulated to primarily ensure efficient utilization of the nation's water resources by putting in place irrigation infrastructures that will facilitate dry season agricultural practices while reducing the chances of disasters associated with erosion and floods. Put differently, they are meant to ensure conservation of both surface and underground water, improve agricultural practices and potable water supply.

Furthermore, RBDAs were established to help the country to attain its objective of self-sufficiency in food production and therefore, reduce vulnerability to hunger and cut down social, economic and political problems (ILC, 2014). However, the Authorities' power to move the country towards self-sufficiency in food production was curtailed by the historic land tenure system, technological limitations resulting in primitive cropping practices and below capacity operation (Ojo et al. 2012). Thus, despite huge financial commitments made to RBDAs by government, they failed as

yet to produce desired result not only in the area of food self-sufficiency but also in the production abilities of the small-scale farmers. Thus, rather than the huge financial investments in RBDAs, government should focus its attention on extension services and direct financial aid to individual small-scale farmers and their cooperative society counterparts.

2.5.7 Peoples Bank of Nigeria (PBN) of 1990:

A lot of Nigerians living in rural areas have no access to formal financial services. In fact, not until in the recent past, many local government councils have only a single branch of a commercial bank. Not only that, access to credit was further restricted by collateral requirement from the commercial bank which views the rural poor as risky borrowers and unworthy customers (Aigbokhan & Asemota, 2011).

In an attempt to allow under-privileged low income Nigerians to have access to credit facilities Decree No. 22 of 1990 which established the PBN was promulgated (Ojo et al. 2012). Therefore, this suggests that the PBN as an alternative to the orthodox commercial banks, was mandated to meet the credit needs of unbanked poor and equally accept savings from such under-privileged customers as the need arises in their ordinary legitimate venture operations (Oyeranti & Olayiwola, 2005). Oyeranti and Olayiwola added that the PBN posited itself as an important microfinance provider for the purpose of inculcating banking habit in the rural areas thereby reducing the level of financial exclusion, creating opportunities for self-employment and poverty reduction.

Nigeria embarked on financial sector liberalization in the year 1986 based on World Bank's recommendation. However, banking sub-sector deregulation only produced a reduction in aggregate savings and investment. Thus, by 1995 the country's financial system was about to breakdown (Lewis & Stein, 1997). Furthermore, Justine, Ighodalo and Okpo, (2012) reported that there was unabated corruption in PBN due to a get-rich-quick syndrome of its officials. For instance, more than one third of the total amount meant to have been disbursed by October 1990 to the targeted beneficiaries was stolen. And only slightly more than one quarter of the remaining two third that was claimed to have been disbursed was accounted for. They equally added that rather than giving loans to poor Nigerians the zonal coordinators of the bank where concerned with payments of overhead expenditures some of which were never incurred.[14] Consequently, as at the time the bank was winded up more than 80% of its loan portfolio was corruptly written off as bad debt (Ugoh & Ukpere, 2009) before been merged with the Nigerian Agricultural and Cooperative Bank (NACB) to create the Nigerian Agricultural, Cooperative and Rural Development Bank (Oyeranti & Olayiwola, 2005).

2.5.8 National Commission for Mass Literacy, Adult & Non-Formal Education (NCMLAE) of 1990:

According to Ofulue (2011), the basic ingredient for worthy participation in both formal and non-formal education and total life endeavors for national development is literacy whose benefits cannot be over stressed. She further posits that despite the fact that literacy tops the United Nations Educational, Scientific and Cultural Organization's (UNESCO) Education for All (EFA) program, it still remains among

[14] Payments of four months salaries to ghost workers and telephone bill when there was no telephone at all are few examples (see, Justine et al. 2012).

the Dakar World Education Forum's goals that have not received the attention it deserves. In addition, Ofulue reported that illiteracy rates are endemic in poverty stricken developing countries and that Nigeria is among the most populated E-9 countries[15] that produce 70% of the global illiterate adults. Varied definitions for literacy exist in the literature but basically, the capacity to read and write is a key to any definition. A person who not only read or write a brief and simple statement but also comprehend the meaning therein, is said to be literate (EFA, 2005, cited in Ofulue, 2011).

Ojo et al. (2012) submitted that NCMLAE was charged with the responsibility of wiping away illiteracy from Nigeria by coming up with sustainable strategies and programs that can be translated into action in the fight for full literacy attainment of the country. This, they pointed out can be realized through partnership with various stakeholders including both local and international NGOs. In addition, the commission provided professional training for enhancing the productive capacity of senior government officials. However, currently there are 62 million illiterate Nigerians who the UNESCO postulated that the country would struggle to eradicate within a rather too long period of 58 years (United Nations Educational Scientific and Cultural Organization - UNESCO, 2015)

2.5.9 National Agricultural Land Development Authority (NALDA) of 1992:

NALDA has a strong link with the Land Use Decree of 1978 which among other motives, aimed at creating access to land for landless enterprising farmers. It was set up primarily to raise farm related income through increased productivity due to

[15] These are countries that host about half of the global population; are poverty stricken and educationally backward. "E" stands for Education while "9" means 9 countries: Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, **Nigeria** and Pakistan (Ofulue, 2011).

efficient land use and therefore, reduce poverty. As a governmental agency, it was empowered to curve the scourge of uneconomic farm fragmentation which works against agricultural mechanization resulting in poor land yields. Ojo et al. (2012) argued that the authority was established to achieve mechanization of agriculture at minimum cost; put in place a calculated land utilization planning schemes and create forest and grazing reserves. In short, NALDA was targeted at generating public support for land development and better utilization of land resources in rural areas of the country. Babatunde et al. (2012) further asserted that the 1992 – 1994 National Rolling Plan provided for the development of 30,000 to 50,000 hectares of land in each state in the country. Additionally, NALDA was meant to provide proximity to farm lands as it was projected that between 7,500 to 12,500 farmers were to be placed there, so that these farmers would be within at most 5km radius of their farms. Finally, Ugoh and Ukpere (2009) pointed that the Strategic Grains Reserves Programs (SGRP) and the Agricultural Development Program (ADP) which positively impacted on agricultural sector of the economy and thus reduced poverty are all connected to NALDA.

NALDA though a laudable initiative in that it aimed at expanding the nation‘s productive capacity in agriculture for food and fibre self-reliance, was marred by excessive spending on unspecific purposes (Ojo et al. 2012).

2.5.10 Family Economic Advancement Program (FEAP) of 1997:

This is a program that was introduced by General Abacha‘s led military government amidst serious controversy: the program was intended to improve the economic status of households but at the time of its introduction the regime was busy

retrenching already miserable-living-civil servants (Innocent, and Eikojonwa, 2014). That singular act of reducing the country's work force increased the number of households without jobs and therefore worsened, rather than advancing their economic status. Ojo et al., (2012) opined that in addition to credit provision for agricultural undertakings, FEAP also had the objective of utilizing cooperative societies to deliver credit for the cottage and small-scale industries for the creation and development of plant, machinery and equipment so as to create jobs and cut down unemployment and poverty.

According to Ugoh and Ukpere (2009), FEAP was established concurrently with the Family Support Program (FSP) which aimed at improving rural families' wellbeing through nutritional condition and effective health care delivery. These programs were another set of failures for the Nigerian poor: after expending over N10 billion (then, an equivalent of about $84 million) virtually nothing existed to prove their presence (Innocent, Eikojonwa & Enojo, 2014). Furthermore, part of the failure story of these programs is the unpatriotic attitude of the beneficiaries who connived with equipment fabricators to provide substandard equipment at an inflated cost (Ugoh & Ukpere, 2009). Other problems that pulled these programs down include near absence or ineffective supervision and monitoring of projects resulting to poor loan recovery. The FGN therefore, responded to these problems with the establishment of National Poverty Eradication Program (NAPEP) (Ojo et al. 2012).

2.5.11 National Poverty Eradication Program (NAPEP) of 2001:

In 1999 a general election was held and the government that was produced headed by retired General Obasanjo saw the need to address the much glaring youths growing

restlessness across the country due to high level of unemployment. The government responded by establishing the Poverty Alleviation Program (PAP) in the year 2000 thereby engaging up to 200,000 unemployed youths into various tasks for a monthly upkeep allowance of N3,500 each (Ojo et al. 2012). The beneficiaries of this program were for instance, assigned to work in government direct labor projects such as maintenance of roads, environmental sanitation and highways vegetation control. Ugoh and Ukpere (2009) submitted that over politicization and corruption associated with PAP generated public outcry which led the government to set up a committee with mandate to review the program; and at the end the committee proposed the establishment of NAPEP.

Taking into cognizance all the shortcomings associated with previous anti-poverty measures including but not limited to absence of well-defined policy framework, poor mobilization of stakeholders especially community leaders who therefore detached themselves from these programs, corrupt practices and poor implementation as well as monitoring and supervision; NAPEP was established in 2001 when it acquired the assets and liabilities of FEAP (Justine et al. 2012). Ugoh and Ukpere (2009) argued that the primary objective of NAPEP was to tackle all the elements of chronic poverty and to achieve this noble objective, all stakeholders in the fight against poverty in the country such as government at various levels, NGOs, research institutions, cooperative societies and organized private sector were all drafted into the program.

According to Justine, Ighodalo and Okpo (2012), NAPEP has the mandate to coordinate all activities relating to poverty reduction undertaken by government

agencies, ministries and parastatals and ensure harmony among them so that activities of one agency will not contradict the other but rather compliment it so that each program can sustainably contribute towards the attainment of the overall goal. In this regard, Justine et al. (2012) submitted that fourteen (14) and thirty-seven (37) core ministries and agencies and institutions were identified and all the poverty reducing programs to be undertaken were broadly grouped into four. These are:

2.5.11.1 Youth Empowerment Scheme (YES):

Ugoh and Ukpere (2009) posit that YES was meant to help targeted youth to develop their productive abilities through compulsory skills acquisition with a trainer with whom they are attached and provision of credit facilities for business promotion.

2.5.11.2 Rural Infrastructure Development Scheme (RIDS):

Justine et al. (2012) view that RIDS targeted at enhancing rural life through provision of potable drinking water, rural electrification, rural and urban transport as well as water for agricultural undertakings.

2.5.11.3 Social Welfare Service Scheme (SOWESS):

SOWESS involves provision of healthcare services, recreational facilities, students' hostel blocks, mass transit, special education in addition to rural telecommunications facilities (Justine, et al. 2012).

2.5.11.4 Natural Resource Development and Conservation Scheme (NRDCS):

NRDCS concerns itself with solid minerals development, agriculture and land conservation for use by both the community and micro operators (Ugoh & Ukpere, 2009).

However, a study that investigated the impact of NAPEP on rural population in Mangu Local Government of Plateau State by Dakyes and Mundi (2013) using a sample of 500 households revealed that NAPEP was firstly billed to create 200,000 jobs across the country and for this target to be achieved, the government released huge amount of money. And that more than 43 % of the sample population in the study has never heard of NAPEP; less than 3% (very insignificant) confessed to have received a small loan that was not adequate enough for any meaningful venture to warrant poverty reduction. Similarly, more than 97% of the sample population stated that they have never enjoyed any of the program's packages. Furthermore, Anger (2010) reported that NAPEP was set up to address poverty issues in the country through empowerment, but rather than working towards realization of its goals it became entangled in series of controversies that necessitated the upper house of the National Assembly to call for probe of the agency's activities from inception. Anger (2010) further stated that by 2009, NAPEP had gulped the sum of N11.8 billion (about $98 million) with little or no evidence to justify this huge expenditure.

In summary, the adoption of series of poverty alleviation programs by Nigerian government with the motive of eradicating or at least reducing poverty has been met with little or no success. This failure of these poverty alleviation programs to address the poverty problem in the country has been attributed to poor macroeconomic management, political instability, weak administration and bad governance (Amadi and Abdullah, 2012). Similarly, unabated and institutionalized corruption that cut across all tiers of planning, execution and implementation of the various programs as well as mission drift in which non-poor get the benefit and

overlapping functions that result in unhealthy rivalry among executing agencies hinder the ability of these poverty alleviation strategies to create a significant sustainable positive effects (see, for example Ayadi, Hyman, & Williams, 2008; Dakyes, & Mundi, 2013). Other problems associated with poverty reduction programs in Nigeria include absence of well-defined policy framework and guidelines, lack of continuity in addition to political interference (Bamiduro & Gbadeyan, 2011; Benedict, 2011). Corroborating this position, Innocent, Elkojonwu and Enoju, (2014) asserted that these poverty reduction programs failed largely because they were built on faulty philosophy.

In the year 2000, the Federal Government of Nigeria (FGN) merged some of these institutions to create the Nigerian Agricultural Cooperative and Rural Development Bank Limited (NACRDBL) in addition to National Poverty Eradication Program (NAPEP) with the mandate of kicking poverty away from Nigeria by 2010, (Babalola & Ajekigbe, 2007). It is worth noting here that, despite all these projects and programs embarked upon by Nigerian government at various levels, the monstrous poverty situation does not only remain, but is indeed on the increase annually (Ehinomen & Adeleke, 2012). Thus, the idea of microfinance banks came into effect. In many developing nations a significant proportion of their informal sector has been dominated by small scale enterprises which have been coexisting with micro financing concept from time immemorial; landlords have been making funds available to poor people for their various economic activities (Chowdhury, 2009). However, the idea of modern microfinance[16] got its roots in Bangladesh in the year 1976 when the founder of the Grameen Bank (1983) and Nobel Peace Prize

[16] The term microfinance and microcredit are used interchangeably (Hossain, 2013). They however, differ in scope in that microfinance comprises of microcredit and other financial services like savings and insurance (Audu & Achegbulu, 2011).

Winner (2006), Professor Muhammad Yunus distributed the total sum of $27 as loans to 42 people in Jobra village (Remenyi & Quiñones, 2000). The Nobel Peace Prize co-recipient (Professor Yunus) might have been motivated to conceive the idea of his micro credit scheme with a view to helping the poor Bangalore people out of the twin disasters of 1971 civil war that was accompanied by famine in 1974 (Kaka & Abidin, 2014).

According to Central Bank of Nigeria (CBN, 2011) microfinance is a development tool used in making financial services available to active poor at a sustainably reasonable price.[17] It is the provision of small amount of credit and other financial products such as micro insurance to poor people who are not served by conventional commercial banks with the aim of enhancing their productive capacities, increasing their household incomes and improving standard of living (Hossain, 2012). Arias, Higuita and Castrillón (2010) view that, low income individuals who lack asset-based collateral benefit from micro loans repayment period of which is short.

Economically active poor whether in wage earning occupations or micro entrepreneurs operating in the informal sector (craftsmanship, agricultural practices and trading) are made to participate in the larger economy with the access to savings and loans provided by microfinance (Al-Shami et al. 2013). Microfinance differs from the conventional financial products of commercial banks in that savings from or loans advanced to targeted group of borrowers is small, group lending technique[18] devoid of collateral as well as ease of operation (Gonzalez & Rosenberg, 2006). The

[17] This is the minimum interest rate that allows for continued operations of MFIs which can be paid with ease by borrowers.

[18] Group lending technique provides for group rather than individual lending. Each individual member of the benefiting group is responsible for other members' share of the loan. This creates 'social collateral' which secures the amount lent.

group lending approach reduces the risk of default by members as they can collectively mount pressure on any member who seems unwilling to pay his share of the loan and ultimately, the group will continue to benefit from the microcredit (Gonzalez & Rosenberg, 2006).

Table 2.1 gives a summary of some poverty alleviation programs undertaken by various administrations in Nigeria.

Table 2.2
Some of Nigeria's Poverty Alleviation Initiatives

Sectors	Year	Programs
Agriculture	1970s	Nigerian Agricultural and Cooperative Bank (NACB); Operation Feed the Nation (OFN); Green Revolution; Strategic Grains Reserve; Pasture and Grazing Reserves; Small Ruminant Production; River Basin Development Authorities (RBDAs)
	1980s	Go Back to Land Program (GBLP); Graduate Farming Scheme; School to Land Program.
	1990s	National Agricultural Land Development Authority (NALDA)
Education	1970s	Universal Basic Education Program; Resource/ Techno-Logical Development
	1980s	Nomadic Education Program; Adult and Non-Formal Education Program
	1990s	National Commission for Mass Literacy, Adult & Non-formal Education (NCMLAE)
Employ-ment	1970s	Industrial Development Centers (IDCs); National Directorate of Employment (NDE).
	1980s	Directorate of Food, Roads and Rural Infrastructure (DFRRI); Better Life Program (BLF);
	1990s	Family Economic Advancement Program (FEAP); Federal Environmental Protection Agency;
	2000s	National Poverty Eradication Program (NAPEP);
Healthcare	1970s	Diseases Eradication Schemes;
	1980s	Primary Health Programs;
.	1990s	Expanded Programs on Immunization;
Housing	1970s	Low-cost Housing Scheme and State Governments' Housing Programs.
	1980s	Federal Housing Development Authority.
Microcredit	1990s	Peoples' Bank of Nigeria (PBN); Community Banks (CBs);
	2000s	Microfinance Banks (MFBs)

Source: Author's Literature Review (2016)

2.6 Private Sector Poverty Alleviation Strategies:

As earlier observed the various efforts made by the Federal Government of Nigeria at different time period did not produce the much needed result (Bamiduro & Gbadeyan, 2011; Benedict, 2011; Amadi & Abdullahi, 2012; Dakyes & Mundi, 2013). Accordingly, private effort toward the noble cause took effect in form of community banking.

2.7 Concept of Microfinance

The concept of microfinance is rooted in the belief that poverty can be significantly lessened or alleviated by solving the credit constraint of the poor through credit accessibility and training the beneficiaries (poor borrowers) on financial management of their income generating businesses (Fatukasi, 2005). Addae-Korankye (2012) submits that lack of access to capital by the poor who are viewed as unworthy borrowers by formal financial institutions is the major cause of poverty which is shifting toward Sub-Saharan Africa and South Asia as well as other developing countries. In their bid to as a matter of necessity, address the scourge of poverty those countries use microfinance programs to break the credit constraint.

Microfinance is an old arrangement spanning from individual's social financial interaction within immediate environment (family, friends and relatives) to formal institutions like money lenders, credit unions, village banks and state-owned banks, (Bateman and Chang, 2012; Tavanti, 2013; Mago, 2013). Again, they reported that the rise of industrial capitalism between 18^{th} and 19^{th} century called for financial institutions that would positively impact on the lives of both the poor and the emerging industrial working classes. Thus, the existence of these microfinance

institutions has been to actually have the poor empowered while challenging the exploitative ruling elite-controlled economic systems that are based on capitalist model. The practice of microfinance has been in existence for time immemorial, though could not casually be seen because it was mostly in the shadows (Brau & Woller, 2004). This position is supported by Chowdhury (2009) who asserted that the presence of landlords who were making loans to poor people for various reasons is enough evidence proving the practice of microfinancing.

Modern day microfinance however, got global attention and prominence in the 1970s starting with the work of Professor Muhammad Yunus (Sengupta & Aubuchon, 2008). Governments and donors' interventions in form of financial services provision before 1970s were evident in highly subsidized rural credit program which proved to be ineffective due to poor outreach, high loses and loan defaults as the programs were more or less viewed as charitable (Ojo et al. 2012). According to Kaka and Abidin (2014), the Bangladesh civil war in 1971 that was followed by the devastating draught of 1974 which jointly inflicted hardship on Bangladesh people could be the motivating factor behind Professor Yunus's idea of micro lending (see also, Rahman & Nie, 2011).

Professor Mohammad Yunus - the Bangladesh born and American-educated economist started the Grameen Bank with an experiment in Jobra village in the year 1976 with a loan of $27 that was distributed to 42 people (Remenyi & Quinones, 2000). By late 1980s Grameen Bank had established itself not only as a small loans provider, but also as a provider of savings services on large and profitable basis. During 1990s there was an up-surge in the number of microfinance Banks (MFBs)

with a much wider outreach target resulting in the befitting description of 1990s as the microfinance decade.

The Nobel Peace Prize awarded to Professor Muhammad Yunus and his Grameen bank in 2006 by the Norwegian Nobel Committee was a recognition of their giant stride in poverty reduction and social as well as economic development in Bangladesh (Tavanti, 2013; Jetha, 2010). The Grameen Bank (GB) which means _Village Bank' in Bangalo was initiated in 1976 but formally established in 1983 and has so far recorded a tremendous success with its popular group lending technique that creates joint liability which serves as social collateral (Yunus, 1999). As at the end of 2010, the bank has a loan portfolio of over $2 billion and a deposit of over $1 billion, serving over 8 million borrowers with its 2,564 branch network covering over 83 thousand villages (Rahman & Nie, 2011). The GB model is being replicated worldwide (Al-Shami et al. 2013) with 150 million borrowers being responsible for MFBs loan portfolio of $39 billion and 67 million customers who formed a total deposits liability of $22 billion (Rahman & Nie, 2011). Consequently, Imai, Arun and Annim (2010) reported that the loan portfolio of the global microfinance market is projected to reach between $250-$300 billion in the near future. Nigeria, as a developing nation, is not exempted in this replication of the Grameen model (Addae-Korankye, 2012; Taiwo, Ikpefan & Isibor, 2014).

2.7.1 Microfinance Experience in Nigeria:

In Nigeria, microfinance practice is older than the modern banking era and can be traced to the old long informal traditional Rotating Savings and Credit Associations (ROSCAs) and Self-Help Groups (SHGs) which exist in nooks and crannies of the

country for mutual benefits of all members (see, for example Abiola, 2011; Onoyere, 2014). The Nigerian Banking Sector Reform of 2004 by CBN was targeted at increasing the availability and accessibility of microfinance to teeming underprivileged Nigerians, reduce poverty and face the development challenges of the 21st century (Idolor & Eriki, 2012). The main objective of this reform was yet another re-capitalization of banks but this time to the tune of N25 billion to be achieve through acquisitions and mergers before the end of 2005. Moreover, Imhanlahimi and Idolor (2010) added that those banks that failed to raise this huge capital were at liberty to apply for license to function as microfinance banks and therefore, complement the existing microfinance providers in the country. Equally important, Audu, and Achegbulu (2011) viewed that, this development of implementing a functional microfinance policy framework by CBN further portrayed the apex bank's commitment to facilitate eradication or reduction of poverty in the country. This, they argued was to ensure goal-directed operations of the banks so that the 65% of Nigerians that are economically active (but poor) who are excluded by the conventional banking sector would be made productive by having access to capital, thereby being gainfully self-employed for poverty reduction and general economic development. However, formal microfinance institutions in Northern Nigeria for instance, can be traced to the establishment of the then Northern Credit Scheme (NCS) in 1966 (Etim, 2013).

Dobra (2011) and Addae-Korankye (2012) posit that researchers and practitioners do not agree on a common definition of microfinance but all the various divergent definitions given tend to see microfinance as an economic intervention and developmental approach aimed at helping low income and in fact, disadvantaged

poor to attain their productive potentials and improve their wellbeing. It is on this basis that Ghalib, Malki and Imai (2014) define microfinance as a mode of finance that emerged as an alternative to formal financial services (which exclude the core poor and low income earners) that are provided through microfinance banks (MFBs) rather than the traditional channels of moneylenders and cooperatives. They added that the idea of microfinance is based on the believe that by breaking the credit constraint in addition to provision of other related financial services like micro savings and insurance to the financially disadvantaged households that cannot meet the demand for physical collateral and credit history by conventional banks; poverty can be reduced or eradicated and livelihoods improved. Similarly, Brau and Woller (2004) refer to microfinance as arrangements (both formal and informal) through which financial services are made available to the poor who are excluded by formal financial systems. They went on to say that, this financial exclusion may be partial as found in developed economies, or near total or complete exclusion as witnessed in underdeveloped as well as developing nations.

Furthermore, Appah, Sophia, and John (2012) reported that microfinance is a strategy by which the poor whether in rural or urban areas especially women are provided with credit and savings facilities for establishing business ventures or expanding existing ones so as to increase households' security. Similarly, Tavanti (2013) saw microfinance as array of services that prevent the poor and low-income households from being financially excluded thereby engaging in productive micro businesses for their survival. It is worth noting here that, so many authors lend credence to these definitions (see, for example Aigbokhan & Asemota, 2011; Eriki, 2012; Addae-Korankye, 2012; Kaka & Abidin, 2014; Ghalib, Malki & Imai, 2015).

According to Appah, and John (2012) two leading approaches are easily discernable in the field of microfinance: Subsidized Credit Delivery and Commercialized Sustainable Microfinance. They are expounded below:

2.7.1.1 Subsidized Credit Delivery:

According to Kiweu (2011), traditionally, MFBs have been predominantly financed by governmental subsidies and development aid. The microfinance industry, right from the Grameen Bank experiment was poverty-focused development initiative rather than profit making agenda. The subsidized credit delivery approach provides that credit services should be supported so that the poor who are incapacitated by their economic status can benefit from the intervention. Microfinance as an intervention strategy in this perspective heavily depends on governments and donor agencies for their operations and consequently, the MFBs have mainly the needs of the poor as their primary concern (Appah & John, 2012).

Moreover, microfinance is a social product and thus, profit should not be the sole motive of MFBs which continue to enjoy the support of donor agencies (Kiweu, 2011). Whereas several scholars (see, for example Karnani, 2007; Morduch, 2009; Jachimowicz, 2013) argued that the poverty-focused microfinance has succeeded in wasting billions of dollars in subsidy, due to erroneous belief that the poor are potential entrepreneurs; corruption and bad management. Kiweu (2011) argued that by being commercialized MFBs will in addition to hurting their clients, be on the path of mission drift. However, he added that many MFBs have been aiming for commercial capital so as to break away from donors‘ influence.

2.7.1.2 Commercialized Sustainable Microfinance:

Donor agencies funds directed at MFBs is grossly inadequate relative to the excessive need for microfinance as a strategy for poverty reduction in developing countries (Schwarcz, 2011). Even though, exploitatively expensive in some instances, he added, commercial bank lending supplements grant and aids for MFBs. There is therefore, the need for MFBs to provide hybrid finance: one that takes into account the needs of the poor while aiming for decent profit margin.

The Commercialized Sustainable Microfinance strengthens the belief that prevailing market-oriented interest should not be a barrier to the poor who can and do save to meet their debt obligations (Appah, Sophia & John, 2012). Besides, the subsidized MFBs do charge interest and therefore, the poor only need secure financial institutions that will support sustainable ventures and markets. Supporting this view, Cull et al. (2009) and cited in Imai, Arun and Annim (2010) said a ‗win-win' situation is produced when MFBs pursue profits at the expense of diminutive social objective. The problem however, is how to achieve this tradeoff between the social obligation and profit motive without jeopardizing the very essence of the existence of MFBs as the two motives can, in a way, be said to be mutually exclusive.

Accordingly, Fouillet & Augsburg (2010) viewed that the desire of MFBs to operate at a profit and become self-sustainable resulting from institutional push can lead to unethical practices or mission drifts as rather than been poor-focused, the MFBs activities may become wholly profit driven. This position is supported by Sriram (2010) who argued that the commercial model of MFBs have turned the needs of the poor into secondary issue as their main target is not only profit making but its

maximization. Thus, instead of seeing the poor as human beings, they are turned into a ladder for attaining profit targets.

2.7.2 Types of Microfinance Institutions in Nigeria

The Nigerian financial sector comprises of both formal and informal finance providers with the latter dominating rural finance provision (Ogunrinola, 2011). Out of the total economically active Nigerians only 35% are served by formal finance providers while the vast majority- 65% relies on informal providers of finance including but not limited to friends, relatives, money lenders and credit unions (CBN, 2005). These two types of MFIs are synchronized as follows:

2.7.2.1 Formal Microfinance Providers

These are non-tradition and formalized MFIs that collect savings, grant credit as well as insurance services at micro level and operate side by side with the informal microfinance providers in the country. Registered microfinance banks (MFBs) that are found in all local governments in addition to several universal banks that operate window in microfinance, provide a good example of formal microfinance institutions (Iganiga, 2008). Iganiga further added that the unit of universal banks that provides microfinance is bound by the provisions of the MFBs regulatory and supervisory guidelines.

2.7.2.2 Informal Microfinance Providers

The informal microfinance finance providers are those MFIs that operate outside the scope of control of regulatory authorities (CBN, 2011) and are mainly traditional groups that exist for mutual benefit of all members and are visible in nooks and crannies of the country (Abiola, 2011).

In developing countries the pattern and nature of these informal microfinance providers differ substantially and cannot be distinguished as separate legal entities as they mainly operate outside the financial system (Oluyombo, 2007). The informal microfinance which still operates in Nigeria is much older than the country's formal MFIs. Additionally, informal microfinance is made available to members under different nomenclature based on geographical location in the country. Audu and Achegbulu (2011) for example, showed that in the Eastern part dominated by Igbos it is called ‗etoto', the Yorubas of the Western region call it ‗esusu' while the Hausas and Fulanis of the North refer to it as ‗adashi. Typical examples of informal microfinance providers in Nigeria include Pawnbrokers or money lenders who are characterized by exploitative interest rates; personal home savings; and ROSCAs which provide that savings are pooled together and then partially or wholly given to member(s) as a lump sum at an agreed period continuously until the last person has benefitted (Addae-Korankye, 2012; Anyanwu, 2004). However, ROSCAs are example of informal microfinance providers that are not only found in Nigeria but commonly exist throughout the world (Brau & Woller, 2004).

Again, there is a need to improve the flow of financial services to micro, small and medium enterprises in Nigeria the apex bank launched the popular Microfinance Policy, Regulatory and Supervisory Framework (MPRSF) in 2005. The policy targets among other things, to bring these informal financial institutions under the CBN's supervision to improve the country's financial infrastructure and achieve a better monetary stability (CBN, 2005; Onoyere, 2014). This suggests therefore, that prior to 2005, MFBs were partly regulated due to absence of supervisory framework

in the country which could be the basis behind the exorbitant interest rate charged by MFIs especially the informal ones.

2.8 Microcredit and Poverty Alleviation

The period covering over thirty years spanning from the 1980s when attention was overwhelmingly focused on microfinance saw an increased number of empirically tested evidences on the impact of microcredit and microfinance on poverty reduction (see, for example Srnec, Divisová, & Svobodivá, 2008; Westover, 2008; Schink, 2010). These various studies show conflicting outcomes pertaining to the impact of microfinance on poverty reduction: some of them indicate positive impact while others report either negative or mixed result (see, for example Karnani, 2007; Aigbokhan & Asemota, 2011; Appah, Sophia & John, 2012; Kaka & Abidin, 2014).

Conducting an impact assessment of microfinance on poverty alleviation Addae-Korankye (2012) in tandem with an extensive body of research, found overwhelming evidence proving a positive relationship between microfinance and income but lesser positive impact on children school attendance, health and nutritional status of borrowers. He therefore, reached the conclusion that microfinance is an effective strategy of fighting poverty especially in developing countries. This conclusion is confirmed by Gilbert, Boateng and Bompoe (2015) who conducted an impact assessment of microfinance in Ghana using income, access to education, housing as well as involvement in religious and social activities as measures of impact. Findings of their study revealed that microfinance has a positive relationship with these measures of impact. Moreover, they recommended that microcredit borrowers should be trained by MFBs in the area of financial management and entrepreneurship

development so as to strengthen the identified relationship between microcredit and poverty alleviation. It is pertinent to observe here that the conclusion reached would have been more persuasive if higher samples were used.[19]

Results obtained by Hamdan, Othman, and Hussin, (2012) in their study of four microfinance programs that were spread across different districts of Selangor in Malaysia showed that borrowers' income level before joining microcredit program has a bearing on the program's effectiveness; proving that microfinance programs are not that effective in addressing the predicaments of the extremely poor. Lønborg, and Rasmussen, (2014) shared this view. Using a panel data on a Northern Malawian community-based microfinance they discovered a regressing targeting of beneficiaries. That is to say, microcredit is of benefit to borrowers but rather than the core poor or the poorest of the poor, it is people who fall above the poverty line that microfinance reaches. Again, a research conducted by Navajas, et al. (2000) revealed that MFBs do not reach the poorest. Thus, donors need to have a second thought before committing the much needed funds for developmental intervention in the name of access to loans for the poorest. However, contrary to these findings, Taiwo, Ikpefan and Isibor (2014) submitted in their study – Microfinance and Poverty Alleviation in South-west Nigeria: Empirical Evidence; that MFBs in Nigeria are a replica of the Grameen Bank and therefore are poor-focused. They concluded that microfinance banks target the poor in their loans disbursement and therefore, reduce poverty in South-west, Nigeria. These findings would have been more interesting with a wider scope for those studies. For instance, Selangor district may not be sufficient enough as a representative of Malaysia; and a sample of 885

[19] The study used only two MFBs, drew a sample of only 60 customers from the banks and generalized the findings on the country (Ghana).

households used by Lonborge and Rasmussen appeared adequate but covering few communities by the _Villages Savings and Loans Associations (VSLAs)‘ in northern Malawi has limited the scope of their study. In addition, the formation of the VSLAs essentially for the purpose of the study might have solicited for a wrong notion from the participants on the very essence of the project.

In a study which applied financing constraints approach, Abiola (2011) used a cross sectional survey method to appraise the impact of microfinance banks (MFBs) on alleviating the financing constraint of microbusinesses in Lagos and Ekiti States, Nigeria. Results of the study show that MFBs break microenterprises financing constraints. In this regards, Imai and Azam (2012) used household panel data between 1997 and 2004 to examine whether loans from MFIs reduce poverty in Bangladesh. Their findings indicate that provision of microcredit breaks the credit constraint and has a positive effect on income and food consumption growth. Hence, it results in poverty reduction. This position is also supported by the work of Enisan and Akinlo (2012) in Ondo State, Nigeria which concluded that accessibility to microcredit has a positive effect on microentreprenuers‘ welfare and poverty alleviation. The work of Abiola and that of Enisan and Akinlo were conducted in three southwestern states of Nigeria. Those states are home to a single tribal population with unique culture; and as such result obtained may not be generalized. This gave their studies a regional rather than national outlook.

Furthermore, according to Hossain (2012), poverty is caused not only by absence or low level of income being the major factor, but also health, malnutrition and education. In the study involving 208 sampled customers of Bangladesh Rural

Action Committee (BRAC) microfinance, Hossain concluded that microfinance reduces social poverty (poverty extending beyond income and including aspects of health, nutrition and education) as findings of his study revealed a positive impact of microcredit on social sphere as represented by health, education, family planning and food consumption in. In addition, Aigbokhan and Asemota (2011) contributed to the debate on impact of microfinance on poverty reduction and share the same view with Hossain (2012) when they reported that microfinance produces positive impact. Similarly, a study using primary data obtained from a sample of 286 respondents in Bayelsa State, Nigeria by Appah, John and Wisdom (2012) shows that significant positive relationship exists between microcredit and poverty reduction. However, they added that although absence of or presence of dilapidated infrastructures in Nigeria negatively affects the power of microcredit to significantly reduce poverty in the country, it is never a silver bullet and cannot solely be a solution to the scourge of poverty. It is important to state here that BRAC (just like the Grameen Bank) is only one out of many MFBs in Bangladesh. Furthermore, Bayelsa is one of the smallest and least populated[20] states in Nigeria; hence results of that study may not readily be generalized on the country. Thus, larger sample size and wider scope of such studies would have made the findings more appealing.

Moreover, in an attempt to appraise how women's access to microcredit affects poverty alleviation in Chinhoyi town, Zimbabwe, Mishi & Kapingura (2012) found that access to microcredit improves women's confidence, empowerment and their status in the family. This finding is in line with the result obtained by Sengür, and Taban, (2012) who posit that microcredit borrowers' income significantly increased

[20] Bayelsa state contributed only 1.02% of the total Nigeria's population (NPC, 2006).

resulting to a more females' employment opportunities. They therefore, concluded that microcredit is an effective tool for women empowerment and poverty reduction.

Investigating the effect of microfinance vulnerability and poverty among low income households in India, Swain, and Floro, (2012) viewed that poverty alleviation is not limited to improved economic welfare but also creation of barrier from poverty. Their study revealed that members of SHG microfinance showed high incidence of poverty, yet they were less vulnerable than non-participants and therefore, concluded that participation in SHG microfinance reduces vulnerability and poverty. Gupta and Manjunatha (2013) concur with this position reporting that the informal sector provides employment to poor women who establish microenterprises after joining the SHG and getting microcredit which increased their incomes and savings thereby reducing poverty. However, in a study that examined the impact of microfinance on poverty in India, Khemnar, (2013) found that the motive upon which MFB is formed affects its ability to reduce poverty. He pointed out that 77% of SHG microfinance institutions in Maharastra State, India were set up for the purpose of savings which is then used to satisfy domestic needs. The conclusion he drew was that the consumption expenditures of members of SHG erode growth potentials of the microfinance and its ability to alleviate poverty. In addition, Nkpoyen and Eteng (2012) opined that there is significant positive relationship between savings and empowerment. They concluded that access to microcredit leads to savings accumulation which in turn improves borrowers' consumption and reduces poverty.

Based on primary data obtained from a sample of one hundred (100) microcredit beneficiaries Kashif, et al.(2011) investigated the effect of microfinance on social

and economic condition of the beneficiaries. Result of this study shows that access to microcredit leads to income generation and improves the standard of living of the poor borrowers. They concluded therefore, that microfinance is an effective intervention approach in the fight against poverty. Similarly, Noreen et al. (2011) used a sample of 384 borrowers from four MFIs and discovered that microfinance has a positive and significant effect on household expenditure and children's education but not on housing condition and assets ownership. The work of Khandker, and Samad, (2014) did not wholly agree with that of Noreen, et al. (2011) as they found that microcredit clients enjoy income generation, increased consumption, children's school attendance and assets accumulation. This proves that welfare benefits derived from microcredit reduce borrowers' poverty level and lead to economic growth. The variation between the result of Khandker and that of Noreen et al. might be accounted for by the fact that in the latter's reliability analysis one-third of the instruments were found to be poor with a Cronbach's Alpha Coefficient of 0.53 and 0.56.

In a study conducted in the poorest region in the world – the Sub-Saharan Africa (SSA)– Mondal (2009) mentioned that microfinance is performing well yet the number of people living in extreme poverty in SSA is increasing simply because the problem is big and the weapon is small. He concluded that microcredit helps in establishing microenterprises which create jobs, lead to savings accumulation and ultimately a reduction in extreme poverty. Corroborating this finding, Onoyere (2014) viewed MFBs as tools for unemployment and poverty reduction help in increasing the living standard of their poor borrowers.

According to Noruwa, and Emeka (2012), even though economic instability, poor documentation of credit and default by borrowers negatively affect MFBs in Nigeria, their credit still plays vital role in developing rural entrepreneurs, employment generation and poverty reduction. In the same light, Imai, Arun and Annim (2010) and Ghalib, Malki and Imai (2014) proved that regardless of borrowers' location (rural or urban) microcredit positively impacts on participants' household welfare, reduces poverty and results in economic prosperity. This notwithstanding, the study by Noruwa and Emeka that was set to cover both urban and rural areas of Nigeria ended up drawing samples from only a part of Lagos metropolitan (Ikejia) at the detriment of other industrial cities with no single respondent chosen from any rural area.

Field et al. (2012) submitted that microcredit grace period has the effect of increasing default rates by borrowers alongside long run profits produced by short run investment as a result of additional liquidity produced by the contract. Absence of grace period according to them discourages illiquid investment and negatively affects microfinance impact on small scale businesses and poverty reduction. Imhanlahim and Idolor (2010) mentioned that borrowers' default rate is accounted for by the misconception from some customers who see microcredit program as a charity than a business venture due to absence or defective supervisory and operational problems. They concluded by saying that the steps taken by CBN in regulating MFBs is a new hope for microfinance industry and poverty alleviation in the country.

Several other studies prove that microcredit positively affects borrowers' welfare and reduces poverty (see, for example Al-mamun et al. 2012; Ashta, Couchoro, & Musa,

2014; Imai et al. 2012; Idolor & Eriki, 2012; Jain & Jain, 2012; Ogwumike & Akinnibosun, 2013; Rokhman, 2013).

In contrast, some researchers have argued that microcredit has negative impact on borrowers and poverty level. Proponents of this view include Chowdhury (2009) who submitted that microfinance does not generate productive employment but instead leads to consumption smoothening. Hence, it is not a tool for poverty reduction. This position agrees with the conclusion of Karnani (2007) who viewed that it is stable jobs that give reasonable wages that can alleviate poverty not microcredit. In line with Karnani's conclusion Jachimowicz (2013) asserted that the idea of microfinance ignores the huge benefits derivable from large scale productions but emphasizes on fragmented production, marketing and distribution resulting into underutilization of resources. His findings show that access to microcredit can only marginally reduce income poverty but not affect other aspects of wellbeing, concluding therefore, that rather than microcredit, it is steady employment opportunities that can alleviate poverty. However, it is exactly the lack of steady employment opportunities that is the key problem in many of the poor countries. Sharing Jachimowicz's view, Karlan and Zinman (2011) concluded that microcredit reduces wellbeing because it results in establishing so many microbusinesses as against bigger enterprises with higher employments, output and incomes. These viewpoints however, failed to consider the period it takes to put in place large business undertakings that will enjoy economic of scale and provide living-wage employment. Even from those arguments it can be deduced that microenterprises are easily formed and if properly managed can reduce poverty.

The work of Block (2010) criticized microfinance in defense of free market system. He opined that microfinance is nothing short of left wing attack on the free enterprise system and it merely results in resource misallocation as the assumed microentreprenuers lack the capacity to make those ‗uneconomically tiny undertakings' to grow. He then concluded that the idea of microfinance was fraudulently conceived and only makes the poorest worse off. And according to him all freedom lovers should frown at the idea. Being a stunt believer in free enterprise, Block failed to accept the position that women are globally more poverty stricken[21] and vulnerable as well thereby describing microfinance activities as ―cult like" and further labeling microfinance subsidizing agencies in form of charitable organizations as well as the IMF and the World Bank as co-attackers of free enterprise.

According to Haque and Yamao (2008), the amount of microcredit is too small for establishing income-earning venture to meet daily needs of the borrower and installment payments. The chronically poor seldom get the loan and when they do it is used to meet consumption not production expenditures. They therefore, arrive at the conclusion that microcredit only pushes the hardcore poor into poverty trap. Thus, it should not be used for poverty alleviation as only the wealthy poor can benefit and not the extremely poor.

A study by Raza (2010) proved that microcredit idea is rooted in neoliberalism that works against direct aid intervention but moves for market-based approach to poverty solution. Findings of this study indicate that exorbitant interest rates are

[21] Women made up 70% of the world's poor (Dobra, 2011); this being the basis of MFIs' women targeting.

charged and the amount borrowed over burdens women and create household conflicts. This led him to conclude that microcredit mainly encourages informal sector operations and pushes micro borrowers into deeper level of exploitation and poverty. Similarly, a research on the impact of microfinance on poor people in SSA by Stewart et al. (2010) found that microcredit does not reach the poorest and some borrowers are only worse off as not all borrowers are potential or real entrepreneurs. He therefore opined that micro savings can be a better model in enhancing the welfare of the poor than ‗micro-debt'. Thus, microcredit is not the solution to global poverty rather it shields developmental agencies from focusing on better intervention schemes.

Furthermore, Serrano-Cinca and Gutiérrez-Nieto (2014) found that the poor is a risky and unattractive borrower with little or no saving and fragmented loan demand that is costly to meet. MFIs may end of attending to customers other than the real poor. A lot of MFIs tend to forfeit their social function of attending to poor aimed at poverty reduction in favor of growth and sustainability in form of increased earnings from higher interest rates and wealthy customer focused attention. Thus, drifting out of their initial purpose or mission and as a result of this their microcredit is targeted at maximizing profit rather than poverty alleviation. In addition, Bateman and Chang (2012) opined that the undue popularity given to microfinance makes it a superior poverty reduction tool. But rather than poverty reduction, it only has limited short run benefit for very few at the expense of sustainable economic development.

There are other studies that show the negative impact of microcredit on poverty (see, for example, Jahiruddin et al. 2011; Asharaf, 2010b; Morduch, 1998; Hulme, 2000; Marr, 2003; Rashid, Yoon, & Bin Kashem, 2011).

Accordingly, there are scholars who opt for the middle cause: they explain that there is a mixed relationship between microcredit and poverty alleviation. That is to say, microcredit has both negative and positive attributes as it relate to poverty reduction. Among the proponents of this view is Tavanti (2013) who submitted that microcredit has potentials for poverty reduction but as it is not a silver bullet (it is not and cannot be seen as stand-alone method) it needs to be combined with other factors such as training for it to be a more effective tool for getting the poor out of poverty for sustainable development. He further argued that financial capital alone is not enough to do the difficult task of poverty alleviation yet microfinance as a business is a realistic approach (though, not always the best solution) to poverty reduction but not as a pro-poor charitable intervention.

Furthermore, the work of Rooyen et al. (2012) captioned the Impact of Microfinance in Sub-Saharan Africa: A Systematic Review of the Evidence proves that microcredit has both good and bad impact on livelihoods of the poor. Similarly, Dobra (2011) submitted that the dominance of economic aspect of microfinance is unfavorable to women's political empowerment. It is an effective tool for reducing economic poverty but fails in women political empowerment. She posits that to effectively fight poverty better representation and decision-making opportunities should be provided to the poor through empowerment programs which will cut down gender inequality and reduce poverty. This is because breaking the gender inequality will

go a long way in reducing poverty as women constitute a greater percentage of the total number of people living on less than $1 a day. Similarly, a study by Flavius and Aziz (2011) revealed that access to microcredit and development of microenterprise in one hand and direct relationship between microenterprises and improvements in owners' welfare is partially supported. In addition, they found no direct link between the community-based microfinance and financial viability of microenterprises. However, Flavius and Aziz employed a single-case study research design taking only 65 clients of HOPE Microfinance Program in north-eastern Trinidad using convenience sampling method[22]; and generalizing their result on a country with a population of over 1.3 million. Interestingly, the researchers themselves admitted the "smallness" of their sample size.

From the foregoing, it becomes apparent that literature relating to impact assessments of microcredit on poverty alleviation produces divergent views. While part of the literature stands with the position that microcredit has a positive relationship with poverty alleviation another part hangs with negative relationship. In between these polar opinions exists the middle cause belonging to scholars who view that there is a mixed relationship between microcredit and poverty alleviation. These conflicting literatures motivated Duvendack et al. (2011) to rigorously re-assess previous impact evaluations. They found out that most impact evaluations have short coming of weak methodologies which greatly reduces the reliability of their outcomes. They concluded that less reliable impact estimates can mislead stake holders and stop them from searching for more appropriate interventions that will lead to poverty reduction. Similarly, these various stands of the literature on the

[22] The use of single case study design limits the scope of the study while convenience sampling technique employed in the study is the least reliable of all sampling designs when it comes to generalization of findings (Sekaran,2006).

relationship between microcredit and poverty alleviation suggests the need for further research (Kaka & Abidin, 2014).

2.9 Microsavings

According to Ashta et al. (2014), savings refer to amount of money kept by people with financial institutions. In this light therefore, micro savings stand for small fraction of the income of the poor that is safely kept by financial institutions mostly MFBs. From microfinance point of view, savings refers to money kept with a microfinance institution in this case a MFB, mostly by poor, with the aim of meeting family needs and build up capital for initiating or expanding an income generating venture (Rozas, 2012). This, points out the benefit of micro savings to both micro borrowers and microfinance institutions. Whereas to the former, voluntary, flexible and easily accessible savings help to inculcate savings habit in poor households and serves as an interest free source of funding consumption and business expenditures; compulsory group savings ensures loan repayment to the later. Thus, savings have positive effect on borrowers' productivity in Nigeria.

According to Hulme, Moore, and Barrientos, (2009) three points should be taken into account in defining microsavings. These are the savers, the amount saved and the institution that collects the savings. With this focus in mind, microsavings stand for small amount of money kept by the poor and low-income earners with specialized institutions.

The central focus of MFBs is employment creation by breaking the credit constraint of the ultra-poor, generating income thereby improving living conditions and

reducing poverty level (Ashta et al., 2014). In addition to this central objective, MFBs also provide facilities for savings by accepting tiny clients' deposits at regular intervals for the purpose of accumulation of start-up capital and or meeting financial obligations, mainly that of payment of principal amount and the interest therefrom. In fact, Collins et al. (2009) argues that savings services benefit the poorest of the poor more than credit itself; his reason being that it facilitates business start-up or expansion, acquisition of assets and accommodation. It is not surprising therefore, that micro entrepreneurs heavily rely on accumulated personal savings as a major source of initial finance and look at alternative sources of funds for expansion (Gunu, 2010) cited in Ashta et al. (2014).

The poor find it difficult to save because of their economic disposition, but savings are needed to guard against shocks, provide cover for income and allow for capital accumulation. Tavanti (2013) reported that though the poor suffer from little income, they still save a minute fraction of such incomes and that savings opportunities not only predate microcredit but are more important to the extremely poor. This is because savings shield poor borrowers from falling back into poverty due to uncertainties and emergencies. Additionally, poverty alleviation does not only end with improved economic welfare but also involves creation of a barrier from poverty (Swain & Floro, 2012); savings help micro borrowers achieve this protection (Tavanti, 2013). This position is supported by Afrane, and Adusei, (2014) who stated that despite the serious challenges faced by the marginalized poor, they still save. This made them to emphasize the need for MFIs to migrate from microcredit provision to microfinance as savings can provide the foundation for capital formation. However, this study was based on a single MFI in Ghana – Sinapi Aba

Trust (SAT), using a four year panel data. Though a large sample size was used, the results obtained could have been better had other MFBs been included in the study.

The effect of savings on entrepreneurs' productivity in Nigeria is found to be positive (Ojo, 2009). To guard against risk of default, some amount of savings may be required by MFBs before credit is extended to an entrepreneur. This is because not only do client savings provide an obvious 'cushion' for timely repayment of loans, they can be used as an alternative and relatively cheap source of funds for the MFBs as loans rates are higher than those for deposits. In this light, savings is viewed in terms of voluntary (individual) and mandatory group savings. However, in general terms microsavings have not received the attention it deserves from the microfinance sector this, being accounted for by the much emphasis that is given to other microfinance products[23](Hudon, & Lietaer, 2006).

2.10 Entrepreneurial Skills (ES)

The term 'entrepreneur' originates from a French word 'enteprendre' which literally stands for 'to undertake' (Assan, 2012). Entrepreneurship is an old concept and its coming to limelight can be attributed to the work of Cantillo in 1680; but scholars are yet to agree on a single definition for this concept (Kuzilwa, 2005). Makhbul and Hasun (2011) reported that an entrepreneur initiates a business and bears all risks that are associated with the business: he seizes business opportunities to his advantage by mobilizing men, money and material and organize them in such a way that goods and services are efficiently produced so that the business's goals and objectives are realized. The major attributes of an entrepreneur according to them include risk

[23] MFBs are mostly tilted towards microcredit than microsavings or insurance particularly in developing countries.

taking, decision making, innovativeness and business oriented social skills. Entrepreneurial skills encompassed technical and managerial skills that can be obtained and enhanced through training, conferences, workshops and seminars (Mat & Razak, 2011).

According to Assan (2012), ES refer to skills that enable prospective business owners to identify business opportunities and grasp them by mobilizing resources needed to attract those opportunities for their benefits. In this regards, Sadeghi et al. (2013) view that business starters with ES are very likely to persevere and keep up with discouraging business challenges. They reported that the ability of an entrepreneur to establish and successfully manage a venture has a strong correlation with his business experience and education. This is because experience be it positive or negative provides an opportunity to obtain and master skills in addition to creating contact with other skilled entrepreneurs (Ellen, 2010).

In a study of 71 SMEs in Plastic Manufacturing Industry in Eastern Cape province of South Africa Afolabi, and Macheke, (2012) found that SMEs that enjoy training in business were more successful than those without skills. They therefore, concluded that success of SMEs in the Plastic Manufacturing Industries depends on entrepreneurial and business skills. Similarly, Neneh (2012) opined that entrepreneurial success is a function of the entrepreneurial experience especially if the experience is in a particular sector that attracts the prospective entrepreneur. Thus, ES can be used to predict future performances. Any improvement in performance therefore, will have a positive effect on poverty alleviation. Additionally, ES generate employment opportunities and lessen the pressure of

unemployment and hence enhance welfare (Assan, 2012). All in all, Abiola (2011) reports that absence of business skills in an entrepreneur is one of the basic factor that pushes small scale entrepreneur into bankruptcy. One identified shortcoming of this study however, is the inability of the researchers to explicitly state their population and sample. For instance, Afolabi and Macheke states that there are 71 SMEs in the Plastic Manufacturing Industry in the region and that 74 questionnaires were distributed. Thus, there is ambiguity as to whether a sub-population was made out of those SMEs or the 74 questionnaires were administered on the entire SMEs. Furthermore, work of Mat and Razak (2011) proved that not only BS but the whole entrepreneurial activity is affected by environmental factors such as access to credit which can form a serious barrier. On the other hand Ernest, Matthew and Samuel (2015) revealed that ES is among the key entrepreneurial learning competencies that has a positive effect on job creation and economic development. Thus, with jobs created unemployment is curtailed, income earned, welfare enhanced and ultimately poverty level reduced as unemployment and poverty are Siamese twins (Onoyere, 2014).

2.11 Entrepreneurial Self-efficacy (ESE)

The theory of self-efficacy (SE) is a brain child of Albert Bandura and as an aspect of a more encompassing social cognitive theory posits that the interactions between environmental factors like access to credit, and individual‘s traits as well as personal attributes such as thoughts and beliefs determine such individual‘s achievement (refer to, for example Pajares, 2003; Schunk, 2003; Morris & Usher, 2011). SE is generally the belief an individual has that he or she is capable (perceived capability) of successfully undertaking or rather executing a given task which he or she sets out

to do (see, for example Bandura, 1977; Pajares, 2011; Schunk & Pajares, 2009; Patricia, Orellana & Barriga 2010; Lunenburg, 2011).

SE refers to perception of one‘s action control or agency and therefore, whether one lives a passive or active life is related to how one perceives oneself. Thus, a high SE is connected to better communal assimilation, better health and more goal attainment. The belief one has about one‘s ability to accomplish a task at hand has been proven to have serious impact in not only moving one to persistently aspire to attain goals but also results in behavioral self-regulation (Schunk & Pajares, 2009). This suggests that SE exerts influence on individuals‘ choice of career or activities, effort and strong desire for success in their various undertakings. It is in this light that Bandura (1984) submitted that highly efficacious people differ substantially from those who think inefficaciously about themselves in terms of acts and tasks accomplishments. Supporting this position Gist and Mitchell (1992) viewed that a person who merely thinks he can execute a given task effectively can outpace those who think of failure in those tasks.

Schunk (2003) identified personal accomplishments, social persuasion, physiological indicators and vicarious experiences as sources of SE. Accomplishing a task allows for efficacy appraisal: success raises and failure lowers SE respectively. In the same way simple verbal persuasion like _you can do it or you cannot do it‘ can magically increase or decrease efficacy. He added that physiological symptoms that signal anxiety can exert positive or negative influence on efficacy. Also sometimes observing a contemporary perform an act may create confidence in the observer that he can equally do it. Similarly, Usher and Pajares (2009) reported that a person‘s

previous job accomplishment is the most influential source of SE especially when success was produced by solving a difficult and challenging task. However, they pointed out that social persuasions can easily undermine SE rather than enhancing it. Additionally, Usher and Pajares (2008) viewed that model who persistently wrestle with a problem and successfully solve it (coping model) have higher tendency to increase observers' SE than mastery model.

The concept of SE makes no meaning when standing alone; it must be assigned to a particular aspect of behavior and activity domain such as pain, literacy, computer, physical activity, social behavior, research method, superstition and entrepreneurship (Betz & Hackett, 2006). Thus, when SE is attached to a new business intention entrepreneurial self-efficacy (ESE) is obtained (Bandura, 1977). ESE like many other areas of academic interest is faced with many variations in areas of definition and measurement (Mcgee et al. 2009). ESE refers to the extent to which an individual believes he is capable of executing tasks relating to new business establishment and management (Forbes, 2005). Stated more precisely, Mcgee et al. (2009) assert that one's belief that one can successfully establish an entrepreneurial undertaking is measured by the construct of ESE; which consists of five factors: Innovation, risk-taking, marketing, management and financial control (Chen, Greene, & Crick, 1998).

According to Setiawan (2014) ESE has an effect on an individual's chances of becoming a real entrepreneur. Entrepreneurship is one of the remedies to menace of unemployment which significantly creates and worsens poverty level. Findings of this work reveal that ESE helps business owners in establishing and managing a

cordial relationship with customers as well as facing unexpected business challenges. This study used final year university students who had entrepreneurship courses. However, the use of nascent entrepreneurs as respondents would have made the findings more reliable as taking entrepreneurship course in the university may not have strong bearing with the student becoming an entrepreneur after graduation. Similarly, Cassar and Friedman (2009) conducted a study on how SE affects investment choice of an entrepreneur. They posit that high SE leads to an aggressive investment decision by an entrepreneur and raise the chances of establishing a viable venture that will enjoy increased labour and financial commitments.

Moreover, Laguna (2013) used data obtained from 332 unemployed persons to examine the role of self-referent beliefs including ESE on entrepreneurial process. The author's finding is noteworthy as it indicates that higher levels of these beliefs have positive relationship with entrepreneurial intention. Not only that, Laguna further clarified that this intention is highly predicted by general and ESE.

Again, Izquierdo and Buelens (2011) submitted that entrepreneurial course affects attitudes and SE which in turn impacts on entrepreneurial intention. They show that initiating a new business venture has a positive relationship with attitudes and SE. And apart from the positive effect on starting a new venture, ESE enhances the performance of the firm (Forbes, 2005). This firm's performance enhancement is gender insensitive (Mueller & Dato-on, 2008). Mueller and Dato-on conducted a study using a sample of MBA students to examine whether gender influences ESE and found no significance variation in male and female ESE. This result agrees with findings of Zhao, Seibert and Hills (2005). Their work on mediating role of SE in

the development of entrepreneurial intentions revealed that ESE does not mediate the relationship between gender and entrepreneurial intentions. In contrast, findings of Shinnar, Hsu and Powell, (2014) did not concur with that of Mueller, and Dato; and Zhao (2008), Seibert and Hills as they opined that there exists a positive relationship between ESE and entrepreneurial intention and that such relationship is moderated by gender.

Several other studies attest to the positive effect of ESE on entrepreneurial intention (See, for example Hechavarria, Renko, & Matthews, 2012; Naktiyok, Karabey, & Gulluce, 2010; Pihie & Bagheri, 2013; Zaidatol, 2009).

2.12 Summary

The chapter discussed various literatures as they relate to poverty, microcredit, microsavings and business skills as well as moderating influence of ESE on poverty alleviation. Review of the literature indicates conflicting positions of scholars and researchers alike on impact of microfinance on poverty alleviation (refer to table 2.3). These conflicting research outcomes call for further research (Kaka & Abidin, 2014) and the need for a moderator to be used in studying the relationship (Baron & Kenny, 1986). Equally, the review shows concentration of studies on breaking credit constraint with little attention on the personal attributes of borrowers. Thus, the use of ESE as a moderator gives a fresh perspective on relationship between microfinance and poverty alleviation. The next chapter of this work specifies the methodology employed in the study.

Table 2.3
Summary of some Previous Findings

Positive relationship between Microfinance and Poverty Alleviation	Negative relationship between Microfinance and Poverty Alleviation	Mixed relationship btw Microfinance Poverty Alleviat
Swain, 2006; Aldeyan, 2009; Kashif et al. 2011, Noruwa & Emeka, 2012; Appah & John, 2012; Enisan & Oni, 2012; Hamdan, Othman & Hussin, 2012; Nkpoyen, Bassey & Eteng, 2012; Sengur & Taban, 2012; Addae-Korankye, 2012; Gupta & Manjunatha, 2013; Tavanti, 2013; Taiwo, Ikpefan & Isibor, 2014; Lonborge & Rasmussen, 2014; Boateng, Boateng & Bompoe, 2015; Okechukwu & Chidi, 2015. Shirazi & Khan, 2009; Shil, 2009; Shastiri, 2009; Wen, 2011; Jain & Jain, 2012; Spiegel, 2012; Idolor & Eriki, 2012; Imai et al. 2012; Ahmed, 2012; Rokhman, 2013; Ogwumike & Akinibosun, 2013; Arvind, Couchor & Musa, 2014; Muhammad, 2014.	Jonathan, 1998; Marr, 2003; Karnani, 2007; Hulme, 2000; Chowdhury, 2009; Asharaf, 2010; Yoon & Bin Kasheem, 2011; Jahiruddin, Short & Dresler, 2011; Bateman & Chang, 2012; Jachimowicz, 2013; Buckley, 1997; Haque & Yamao, 2008; Walter, 2010; Raza, 2010; Stewart, 2010; Karlan & Zinman, 2011.	Dobra, 2011; Flav ius & Aziz, 2011; Van Rooyen et 2012;

Source: Author's Literature Review (2016)

Table 2.4
Summary of Some Selected Previous Studies Reviewed

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
1	Global Journal of Finance and Banking	Dr. Ben E. Aigbokhan (2011)	Nigeria (South)	Regression OLS	Microfinance factors such as education and experience have positive impact on poverty	The paper is –for" in the debate on the Microfinance role on poverty reduction
2	Arabian Journal of Business and Management Review	EbimoboWei Appah, Sophia John and Soreh Wisdom (2012)	Nigeria (South)	Descriptive statistics, chi-squire, ANOVA and SPSS	Significant relationship exists between Microfinance and poverty reduction	Absence of or presence of dilapidated infrastructures negatively affects the ability of microfinance to reduce poverty
3	International Journal of Economics and Finance	Abiola Babajide (2011)	Nigeria (South)	Regression	Microfinance Institutions alleviate financing constraints of microenterprises in Nigeria	With improved access to microcredit entrepreneurs' welfare is enhanced resulting in poverty reduction
4	Australian Journal of Business and Management Research	Anisan A. and Akinlo A. (2012)	Nigeria (South)	Descriptive and inferential statistics	Loan accessibility has a significant positive effect on microentreprenuers' welfare	Microfinance increases beneficiaries' welfare and hence reduces poverty
5	Journal of Financial Management & Analysis	Imhanlahimi, J. and Idolor, E. (2010)	Nigeria	Conceptual Review	Poor and inadequate infrastructure, supervisory and operational problems are among the challenges of Microfinance	The steps taken by Central Bank of Nigeria in regulating finance institutions is a new hope for microfinance industry in the country
6	Mediterranean Journal of Social Sciences	Onoyere, I.A. (2014)	Nigeria	Conceptual Review	Microfinance banks result to higher standard of living of their poor borrowers	Microfinance banks are tools for unemployment and poverty reduction
7	Vision 2020 Sustainable Growth and Economic Development	Taiwo, J.N., Ikpefan, O. and Isibor, A. (2014)	Nigeria (South)	Descriptive and inferential statistics	Nigerian microfinance banks are pro-poor just as is the case with the Grameen model	Microfinance banks target the poor in their loan disbursement and therefore, reduce poverty in the Southwest, Nigeria
8	International Journal of Business Administration	Noruwa, A. and Emeka, E. (2012)	Nigeria (South)	Descriptive statistics	Economic instability, poor documentation of credit and default by borrowers negatively affect MFBs in Nigeria	Microfinance institutions play a vital role in developing rural entrepreneurs and reducing poverty

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
9	Mediterranean Journal of Social Sciences	Kaka, E.J. and Abidin, F.Z. (2014)	Nigeria (North)	Conceptual Review	Cultural and religious factors add to already existing chronic poverty among women in Northeast, Nigeria. Training women on various aspects of their microenterprise will enhance their performance and improve their welfare	Training and supervision combined with access to credit for women microentreprenuers have a positive effect on poverty alleviation
10	International Journal of Business and Social Science	Nkpoyen, F. and Eteng, B. (2012)	Nigeria (South)	Descriptive statistics and correlation	There is significant relationship between increased savings which result to empowerment and poverty alleviation	Access to microcredit improves rural borrowers' lives and reduce poverty
13	Global Journal of Pure and Applied Sciences	Ndifon, H., Ofem, N. and Ntiu, O. (2008)	Nigeria (South)	Conceptual Review	The poor prefers formal sources of micro loan. Microcredit has a strong positive relationship with poverty alleviation	There is limited access to formal sources of capital in the study area and as such the impact of microcredit on poverty alleviation is not very significant
14	International Business & Economics Research Journal	Mondal, W. (2009)	Sub-Saharan Africa (SSA)	Descriptive statistics	Microfinancing creates microentreprenuers which in turn, results in poverty alleviation	The number of people living in extreme poverty in Sub-Saharan Africa increases. Microcredit can help in establishing microenterprises which create jobs, lead to savings accumulation and ultimately a reduction in extreme poverty
15	Journal of International Development	Spiegel, S. (2012)	SSA	Conceptual review	Microfinance faces risks of diverting borrowed funds to other uses, re-payment default and widening inequality between wealthier and poorer miners	Microcredit is not a panacea for poverty alleviation for African artisanal mineworkers

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
16	Social Sciences-Miscellaneous Papers	Stewart, R., Rooyen, C., Dickson, K. et al (2010)	SSA	Conceptual Review	Microcredit does not reach the poorest and some borrowers are only worse off as all borrowers are potential but not real entrepreneurs	Micro savings can be a better model in enhancing the welfare of the poor than ‗micro-debt'. Microcredit is not the solution to global poverty rather it shields developmental agencies from focusing on better intervention schemes
17	Review of Business & Finance Studies	Boateng, G., Boateng, A. and Bampoe, H. (2015)	Ghana	Descriptive statistics	There is positive relationship between microfinance and poverty reduction	The study confirmed the positive impact of microfinance on poverty alleviation in Ghana.
18	African Journal of Business Management	Mishi, S. and Kapingura F. (2012)	Zimbabwe	Conceptual Review	Access to microfinance improves women's confidence, empowerment and their status within the family	Access to microfinance has a significant positive effect on women's welfare and poverty reduction
19	Mediterranean Journal of Social Science	Mago, S.(2013)	Zimbabwe	Conceptual historical review	The microfinance sector in Zimbabwe faced hash economic challenges that nearly result to its extinction	The supply of microfinance in Zimbabwe from both formal and informal sources is lower than its demand and a need exists for a comprehensive policy guideline for the microfinance sector
20	Mediterranean Journal of Social Science	Mago, S. (2013)	Zimbabwe	Case study	MFIs in Zimbabwe are characterized by management malpractices, high transaction, operation, legal and integrity risks that deter their growth and survival	Due to unqualified and poorly trained personnel, MFIs in Zimbabwe lack effective ORM and this negatively affect their effectiveness
21	International Journal of Development and Sustainability	Siyoum, A., Hilhorst, D. and Pankhurst, A. (2012)	Ethiopia	N/A	Credit does not make poor people to exit food insecurity and poverty	Microcredit as a poverty reduction tool is not for extremely poor households but it works for better-off or wealthy poor

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
22	Business and Management Review	Ondoro, C. and Omena, D. (2012)	Kenya	Descriptive statistics	Microfinance has a positive effect on youth financial management skills but not on savings and investment	There is no significant relationship between savings and investment among the youth in the study area. Therefore, credit alone cannot help the youth out of poverty
23	Asian Social Science	S. Al-shami, I. Majid , N. Rashid Et al (2013)	Malaysia	Conceptual review	Microfinance services have significant impact on the well-being of the poor	Microfinance improves the well-being of its beneficiaries.
24	World Review of Business Research	Hamdan, Othman and Hussin (2012)	Malaysia	Comparison of the various MFIs impact on incomes of the poor	Microcredit programs are effective for low income poor but not for chronically poor	Members income level before joining microcredit program has bearing on the program's effectiveness
25	African Journal of Business Management	Mamun A., Malarvizhi, C., Hossain, S. and Sozali, A. (2011)	Malaysia	Regression analysis	Microcredit has a significant positive relationship with participants' productive assets and households members employment	Participation in microcredit schemes results in assets accumulation, increased employment and income leading to welfare improvement and poverty reduction
26	Interdisciplinary Journal of Research in Business	Hossain, M. (2012)	Bangladesh	Descriptive statistics	Microfinance has a significant impact on customers' health, sanitary condition and potable water	Microfinance has positive social impact on microcredit beneficiaries
27	International Bank for Reconstruction and Developments	Khandker, S. and Samad, H. (2013)	Bangladesh	Econometric analysis	Microcredit clients enjoy income generation, increased consumption, accumulate assets and children school attendance	Welfare benefits derived from microcredit reduce participants poverty level and lead to economic growth

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
28	Journal of Asian and African Studies	Nawaz, S. (2010)	Bangladesh	Descriptive statistics	Moderate reduction in poverty is achieved but many core poor were not reached by microfinance	Microfinance factors like education and skills training should be merged with credit access for it to be effective
29	Proceeding of World of Science, Engineering and Technology	Haque, M. and Yamao, M. (2008)	Bangladesh	Descriptive statistics	Amount of credit is too small for establishing income-earning venture to meet daily needs and instalment payments. Chronically poor do not get the loan	Microcredit can push the hardcore poor into poverty trap and credit alone cannot be used to alleviate poverty. Thus, microcredit can work for the wealthy poor and not for the extremely poor
30	International Journal of Retailing and Rural Business Perspectives	Parameswara, G. and Manjunatha, (2013)	Bangladesh	Conceptual Review	The informal sector provides employment to poor women who establish micro enterprises after joining the SHG and getting credit	Members of SHG micro Credit enjoy increased income, savings and credit and therefore, reduction in poverty
31	World Bank Policy Research	Khandker, S. and Khalily, M. (2010)	Bangladesh	Conceptual Review	Results show that regular microfinance is not as effective as PRIME in terms of reaching the hardcore poor	The program has reached its target in reaching the ultra-poor. Hasty conclusion should not be taken on its sustainability
32	The Journal of Risk and Insurance	Syed, A. Roberts, J. and Mosley, P. (2011)	Bangladesh	Regression	Micro health insurance has a significant beneficial effect on food sufficiency but not to other poverty indicators	Has a reducing effect on poverty. MHI also has a negative relationship with poverty. It can be inferred therefore, that combining MHI to microcredit program can improve welfare and reduce household poverty
33	African Journal of Agricultural Research	Wen,C. (2011)	Bangladesh	Regression	The study reveals an increase in income generation of borrowers leading to increase in consumption	Microcredit programs impact positively on borrowers welfare and hence result in poverty reduction

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
34	Asian Social Science	Mohd. A. and Mazlan, A. (2014)	Bangladesh	Descriptive Statistics and regression analysis	The study shows that the parameters used-average loan balance per borrower, loan cost per borrower etc assert a positive relationship	In the area of study most Microfinance Institutions are efficient in their operations and therefore, self-sufficient
35	Advances in Social Work	Ahmed, S. (2012)	Bangladesh	N/A	Findings of the study shows that JCF project participation results in increase in self-employment, income, savings, children's school enrolment and reduced gender inequality	A single developmental intervention cannot cure poverty. However, development innovations in microfinance such as Jagorani Chakra Foundation (JCF) project called Extreme Poor Women's Development Project (EPWDP) greatly help in poverty reduction as well as attaining the other United Nations MDGs
36	Journal of Development Studies	Imai, K. and Azam, M. (2012)	India	Conceptual Review	There is positive effect of microcredit on income and consumption	Microcredit has poverty reducing effect on borrowers in India.
37	International Journal of Marketing and Technology	Khemnar, J.K. (2013)	India	Conceptual Review	Most SHGs were formed for the purpose of savings which is then used to satisfy domestic needs	Microentrepreneurs consumption expenditure erode growth potentials of the microfinance and its ability to reduce poverty
38	Journal of Development Studies	Swain, R. and Floro, M. (2012)	India	Regression Analysis	Members of SHG show high incidence of poverty yet they are less vulnerable than non-participants	Participation in SHG microfinance program reduces vulnerability and poverty
39	World Development	Imai, K., Arun, T. And Annim, S. (2010)	India	Descriptive statistics	Microcredit productive loan has a positive significant effect on borrowers' welfare	In both rural and urban areas microcredit meant for productive enterprise reduces poverty of borrowers and result in economic development

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
40	American Economic Review	Field, E., Rohini, P., John, P. and Natalia, R. (2013)	India	N/A	Grace period has the effect of increasing default rates by borrowers alongside long run profits produced by short-run investment as a result of additional liquidity produced by the contract	Absence of grace period discourages illiquid investment and negatively affects microfinance impact on microenterprises and poverty reduction
41	International Journal of Economics and Finance	Shil, N. (2009)	India	N/A	Microcredit has a strong positive effect on poverty alleviation. The disperse geographical location of poor hinders better outreach of microcredit programs	Timely and appropriate targeting of beneficiaries of microcredit and fair application of commercial principles on microcredit programs will enhance the positive effect of MF on poverty alleviation
42	International Journal of Medicine and Public Health	Saha, S. (2011)	India	Conceptual Review	MFIs in India incorporated health as part of their program aimed at meeting their customers' needs taking into account the need for sustainability and growth	Combining health related programs with microfinance probes to be effective in tackling health problems, ascending to higher well-being thereby reducing the poverty level of clients
43	Journal of Arts, Science & Commerce	Jain, D., and Jain B. (2012)	India	N/A	Microfinance results in moderate increase in income, savings and employment opportunities	Microfinance empower women politically, economically and improvement in decision making
44	Indian Journal of Medical Research	Yesudian, C. (2007)	India	N/A	The study revealed that only few poor people who are below the poverty line are beneficiaries of the programs	Involvement of the poor helps in their empowerment and poverty reduction. Similarly, high level of government interference impedes the effectiveness of the programs
45	Plos One	Field, E., Pande, R., Papp, J. and Park, Y. (2012)	India	Regression Analysis	The study reveals that an upward review of repayment results in higher business income which in turn increases basic consumption expenditures. There is no increased risk of loan default in the short run	The study reveals that an upward review of repayment leads to better socialization and is positively correlated with mental health burden of indebtedness due to reduced financial stress

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
46	Globsyn Management Journal	Panda, D.(2009)	India	Descriptive statistics and Regression	The study reveals a positive impact on income, savings, reduced migration, literacy and decision making of Self-help Group members	Self-help Group-based microfinance impacts positively on members' welfare and reduce poverty
47	Springer Plus	Hadi, R. Wahyudin, U., Ardiwinata, J. and Juma, A. (2015)	Indonesia		Education and microfinance combination has a significant positive effect on Poverty alleviation	Credit alone cannot alleviate poverty. The combination of education and microcredit for the poor can lead to positive welfare change and sustainable economic development
48	Journal of Economics and Business	Rokhman, W. (2013)	Indonesia	N/A	Microfinance significantly improves borrowers' income, school enrolments and microenterprises growth	Microfinance is an effective tool for poverty alleviation
49	Review of Economics and Statistics	Karlan, D. and Valdivia M. (2011)	Peru	N/A	Training positively affects repayment by and retention of customers. It provides business skills and improves performance. No impact was observed on decision making and insignificant effect on child labour	The financial sector of developing countries is dominated by informal finance providers. Training that provides entrepreneurship skills improves business performance and results. It therefore, benefits both the clients and the MFIs
50	Asian Academy of Management	Flavius, T. and Aziz, Z. (2011)	Trinidad	N/A	The study reveals mixed result in that access to microcredit and devt of microenterprises and direct r/ship btw microenterprises and improvements in their owners' welfare is partially supported. And that no direct link is establish btw community-based HOPE program, social network dynamics and financial viability of microenterprises	Access to microcredit helps in establishing and developing microenterprises. The effect of the access on welfare of borrowers is however, marginal

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
51	Sosyal Bilimler Dergisi	Sengur, M. and Taban, S.(2012)	Turkey	N/A	Microcredit borrowers' income significantly increased resulting in more female employment opportunities	Microfinance is an effective tool for women empowerment and poverty reduction
52	International Journal of Business and Social Science	Durrani, M., Usman, A., Malik, M, and Ahmad, S. (2011)	Pakistan	Correlation and SPSS	Microfinance leads to income generation and therefore, improves the standard of living of poor borrowers	Microfinance as an intervention approach is effective in fighting poverty
53	World Applied Sciences	Noreen, U Imran, R., Zaheer, A. and Saif, M. (2011)	Pakistan	N/A	Microfinance has positive and significant effect on household expenditure and children education but not assets ownership, consumption and housing condition	Microfinance is an effective tool for poverty reduction
54	Oxford Development Studies	Ghalib, A., Malik, I. and Imai, K. (2014)	Pakistan	Descriptive statistics	Access to microfinance results in positive increase in income, household expenditure on clothing, housing, water supply and healthcare	Microfinance impact positively on participants' household welfare and poverty reduction
55	Pakistan Economic and Social Review	Shirazi, N. and Khan, A. (2009)	Pakistan	Descriptive statistics	Result of the study shows that microcredit has a positive impact on the borrower households	Microcredit reduces poverty generally but the approach is not suitable for the extremely poor
56	Dialogue (1819-6462)	Mohammad, I., Ghani, U. and Amin, I. (2009)	Pakistan	Descriptive statistics	The study indicates that the performance of Pakistani MFIs is significantly different from that of similar MFIs in India and Bangladesh	MFIs in India and Bangladesh are better than that of Pakistan in terms of outreach on poor women, flexible borrower group size, trained personnel, accurate management information system and performance motivation. Pakistani MFIs should therefore, emulate these attributes to enhance their performance

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
57	Journal of Business Ethics	Tavanti, M. (2013)	Philippines	Conceptual Review	Microfinance as a business, is a realistic approach to poverty reduction but not as a pro-poor charitable intervention	Poverty alleviation is a difficult task and micro lending alone as an aspect of microfinance cannot produce the desired outcome
58	Centre for Global Development, USA	Karlan, J. and Zinman, D. (2011)	Philippines		Negative effect of microloans on business and welfare	Microcredit results in fewer microbusinesses as against bigger enterprises with higher income. It therefore, reduces well-being
59	Journal of Applied Sciences Research	Muneeza, A. and Hassan, R. (2011)	Maldives	Conceptual Review	Maldives has no microfinance institutions. Microfinancing as a development intervention reached very few through National Bank of Maldives	The study concludes that establishing microfinance institutions would empower people of the various islands nation and reduce poverty
60	Journal of Business and Retail Management Research(JBRMR)	Alex Addae-Korankye (2012)	N/A	Conceptual Review	Microfinance has a positive impact on poverty reduction	Microfinance is an effective tool for poverty reduction in developing countries
61	Economic and Social Affairs DESA working paper No 89	Anis Chowdhury (2009)	N/A	Conceptual Rview	Credit alone produces no desired outcome. Micro entrepreneur need training and access to market	Micro finance does not generate productive employment but rather leads to consumption smoothening. Hence, it is not a poverty reduction tool
62	Stanford Social Innovation Review	Aneel Karnani (2007)	N/A	Conceptual Review	Microfinance does not reduce poverty	It is stable jobs that give reasonable wages that can alleviate poverty not microcredit
63	World Economic Review	Bateman, M. and Chang, H. (2012)	N/A	Conceptual Review	Microfinance hinders sustainable economic and social development. The poor is only worse off.	Rather than poverty reduction, microfinance only has limited short run benefit for very few at the expense of sustainable economic development

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
64	Economics, Management and Financial Markets	Block Walter E. (2010)	N/A	Conceptual Review	Microfinance results in resource mis allocation as micro entrepreneurs lack the capacity to make it grow	The concept of MF was fraudulently conceived and mainly makes the poorest worse off. It should be frowned at by all freedom lovers
65	Journal of Sustainability	Jachimowicz, J. (2013)	N/A	Conceptual Review	Access to credit can only reduce income poverty but not other aspects of well- being. Steady employment opportunities can go a long way in poverty alleviation	Microfinance alone is not the answer to poverty alleviation, but steady employment opportunities can do the job
66	International Business Review	Serrano-Cinca, C. and Guterrez-Nieto, B. (2014)	Spain	Regression Analysis	The poor is a risky and unattractive borrower with little or no saving and fragmented loan demand that is costly to meet. MFIs may end of attending to customers other than the real poor	A lot of MFIs tend to forfeit their social function of attending to poor aim at poverty reduction in favor of growth and sustainability in form of increased earnings from higher interest rates and wealthy customer focused attention. Thus, drifting out of their initial purposes
67	Journal of Finance and Accountancy	Valadez, R. and Buskirk, B. (2011)	N/A	Conceptual Review	Microcredit whether from social or business perspective has a positive effect on productivity, income poverty reduction. The question and motive of sustainability however, erodes the social aspects of MFIs	The coming of a modern day microfinance is a re-invention of a different way our society looks at business from the view point of the poor
68	Bulletin of the World Health Organization	Leatherman, S. and Dunford C. (2010)	N/A	Conceptual Review	Health-related services such as health education have positive impact on microcredit borrowers' performance	Access to microfinance results in income security and better health. Thus, combining health-related services with microfinance results in higher welfare and poverty reduction

Table 2.4 Continue

S/N	Journal	Author	Country	Method	Major Finding(s)	Conclusion/Rec
69	World Development	Microfinance has proven the poor's entrepreneurial potentials in job creation and development of variety of innovative productive activities that can bring returns	N/A	Conceptual Review	Microcredit is significantly and negatively related with poverty. Researches that point otherwise cannot be taken on their surface value	Microfinance is an effective tool for reducing the depth and severity of poverty. Thus more commitments should made to be seen in MF so as to eradicate poverty
70	Journal of Innovation and Entrepreneurship	Arvind, A., Couchoro, M. and Musa, A. (2014)	N/A	Conceptual Review	The study reveals that by with the innovations of micro guarantees, equity and remittances, microcredit has moved to microfinance	Microfinance has proven the poor's entrepreneurial potentials in job creation and development of variety of innovative productive activities that can bring returns

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction

This chapter discusses the methodology employed in conducting this research. Methodology here refers to a blue print that specifies how data is collected, measured and analyzed with the aim of achieving research objectives (Afolabi & Macheke, 2012a). It begins with introduction and research framework, research design, study population from which sample is drawn vividly specifying the sampling technique to be employed, process of data collection in addition to techniques of data analysis. The chapter also gives the study hypotheses which attempt to clarify the relationship between the dependent variable (poverty alleviation), all the independent variables (microcredit, microsavings and entrepreneurial skills) and the moderating variable (entrepreneurial self-efficacy).

The use of statistical and empirical methods makes this research work a quantitative study. Creswell (2013) viewed that any research that involves collecting arithmetical data and statistically analyzing that data for the purpose of explaining a given phenomenon is described as quantitative research. The choice of this method is justified because it helps researchers to obtain actual information from respondents (Afolabi & Macheke, 2012). The researcher employed statistical tools to explain the relationship between the study variables following systematic scientific research procedures like experiment and survey in data collection and analysis thereby achieving a level of reliability for the study. Additionally, quantitative approach

allows the use of a small representative samples and generalizing findings on large populations (Rao & Woolcock, 2003). They added that quantitative research approach facilitates easy analysis replication by other researchers thereby validating or invalidating original research findings. Thus, by systematic collection and analysis of numerical data with minimal or no interference with respondents, quantitative researchers operate on ethics that meticulously produce results that are objective, impartial and reproducible when the research process is replicated (Sekaran & Bougie, 2016). Subsequent chapter of this study contains these statistical measures that prove the reliability of the instruments and the research work.

3.1 Theoretical Framework

Researchers make use of various approaches to address a given problem under different situations. The choice of these approaches is usually dictated by the objectives which the research seeks to achieve. A number of previous studies were conducted on the impact of microcredit on poverty reduction. However, the combination of the constructs differs from one study to another. The research constructs used and the moderating mechanism of entrepreneurial self-efficacy make the framework different from that of other studies. Figure 3.1 depicts (diagrammatically) the relationship among the research variables. Mathematically, the models are given as:

a. Standard Multiple Regression: Treatment

$DV = f(IVs)$ …….i

$DV = f(MC,MS,ES)$

$PA = IV_1 + IV_2 + IV_3$

$PA = \beta o + IV_1 + IV_2 + IV_3 + e$

$PA_i = \beta o + \beta_1 IV1_i + \beta_2 IV2_i + \beta_3 IV3_i + e_i$

$PA_i = \beta_o + \beta_1 MC_i + \beta_2 MS_i + \beta_3 ES_i + e_i$ ……ii

b. Standard Multiple Regression: Control

$PA_i = \beta_o + \beta_1 MS_i + \beta_2 ES_i + e_i$ ……...iii

c. Moderation Model: Interaction Effect

$PA_i = \beta_o + \beta_1 MC_i + \beta_2 MS_i + \beta_3 ES_i + \beta_4 ESE_1 + \beta_5 MC_i \times ESE_i + \beta_6 MS_i \times ESE_i + \beta_7 ES_i \times ESE_i + e_i$ iv

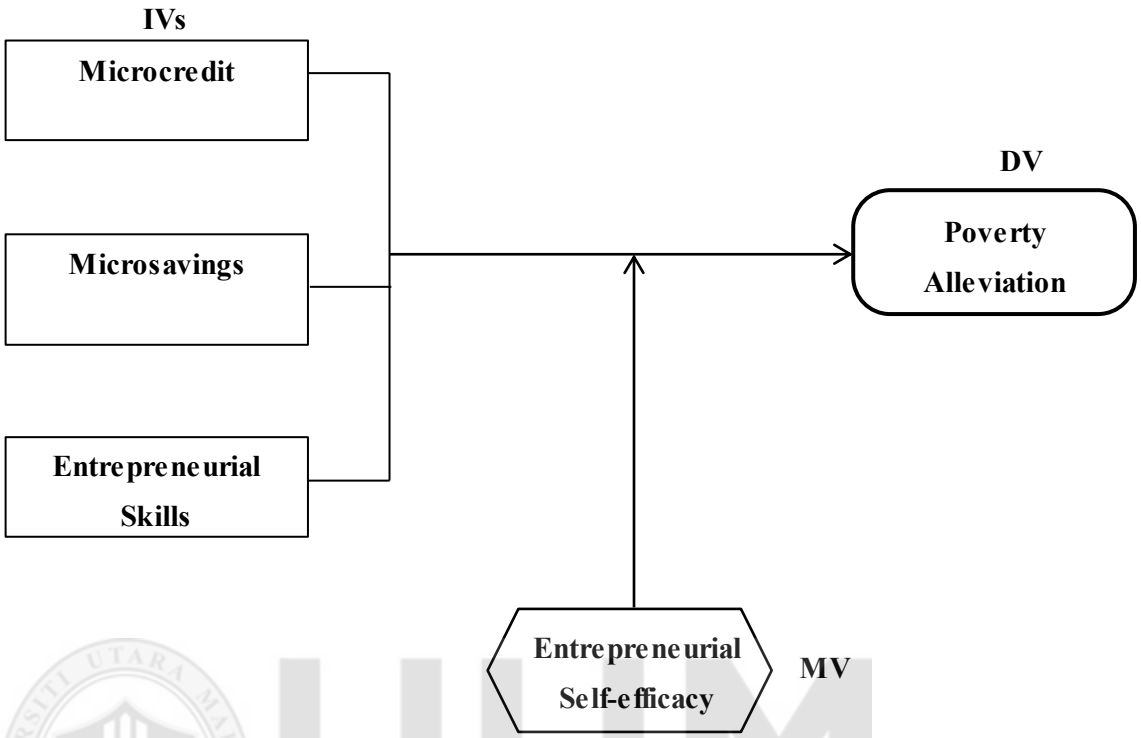

Figure 3.1
The Conceptual Model of the Study

This study used multiple and hierarchical regressions techniques of data analysis. Consequent upon this, the study variables are classified into dependent variable; and independent variables. The study framework shows microcredit, microsavings and entrepreneurial skills as independent variables while poverty alleviation is given as dependent variable. Equally, on the basis of the submission of Bandura (2006) and Wieber et al. (2010) that SE is domain specific and moderates implementation intention, ESE is used as a moderator of the relationship between independent variables and the dependent variable in the framework.

3.2 Statement of Research Hypotheses

This study seeks to appraise the effects of microfinance on poverty alleviation through microcredit; microsavings; entrepreneurial skills and entrepreneurial self-efficacy as a moderator of the relationship. The following hypotheses are stated to test the relationship between the study variables:

Scholars such as Bateman and Chang (2012), Chowdhury (2009) and Jachimowicz (2013) criticized microcredit as a poverty fighting tool. Several empirical studies documented the positive effects of breaking the credit constrain of the poor on poverty reduction (see, for example Ahmad & Siwar, 2014; Gupta & Manjunatha, 2013; Abiola, 2012; Zahid, Iqbal, and Mushtaq, 2015). It is therefore, hypothesized that:

H_1 Microcredit is positively associated with poverty alleviation in Northwest Nigeria.

Microsavings provides a win-win situation as it helps micro borrowers to take care of their family needs and therefore helps in smoothening consumption (Chowdhury, 2009); results in capital accumulation for initiating or expanding an on-going business venture; and secures the lender‘s (MFBs‘) resources (Tabanti, 2013). Evidence from the literature shows that savings has positive effect on borrower‘s productivity, and greatly help the poor to go out of poverty (Ashta et al., 2014). It is in this light that Collins et al. (2009); and Alfrane and Adusei, (2014) argued that

savings services benefit the core (extremely or chronically) poor more than credit. The researcher therefore hypothesized that:

H_2 Microsavings is positively associated with poverty alleviation in Northwest Nigeria.

Evidence from literature indicates that many microbusiness undertakings fail due to largely business owners‘ lack of needed skills in managing their ventures (Abiola, 2012). Entrepreneurial skills can therefore, be used to predict future performance of micro businesses. Improvements in business performance would mean earning more income for the microentreprenuers which in turn results in enhancing wellbeing and hence, poverty alleviation (Assan, 2012). Entrepreneurial skills comprises of ―know-how" and ―know-who" which are among the conditions necessary for individuals to become successful entrepreneurs. These skills are vital at both the early stage as well as development and maturity stages of business ventures (Armanurah, Hussin, & Buang, 2014). It is therefore, hypothesized that:

H_3 Entrepreneurial skill is positively associated with poverty alleviation in Northwest Nigeria.

Self-efficacy measures the confidence of an individual in his ability to execute a task at hand and determines whether such individual lives an active or passive life (Schunk, & Pajares, 2010). The strength of an entrepreneur‘s belief (perceived capability) that he can successfully accomplish entrepreneurial undertaking stands for his entrepreneurial self-efficacy. Studies show that self-referral beliefs (such as

self-efficacy) have strong connection with persons‘ success or failure in what they seek to accomplish (Laguna, 2013). In line with the position of Laguna, Shinnar, Hsu and Powell (2014) showed that there exists a positive association between ESE and entrepreneurial intention. However, to the best knowledge of the researcher there is no empirical study that explored the moderating effect of ESE on the relationship between microcredit; microsavings; entrepreneurial skills; and poverty alleviation. It is therefore hypothesized that:

H_4 Entrepreneurial self-efficacy moderates the relationship between microcredit and poverty alleviation in Northwest Nigeria.

H_5 Entrepreneurial self-efficacy moderates the relationship between microsavings and poverty alleviation in Northwest Nigeria.

H_6 Entrepreneurial self-efficacy moderates the relationship between entrepreneurial skills and poverty alleviation in Northwest Nigeria.

H_7 Entrepreneurial self-efficacy moderates the relationship between microcredit, microsavings, entrepreneurial skills and poverty alleviation in Northwest Nigeria.

The above hypotheses are depicted in figure 3.2.

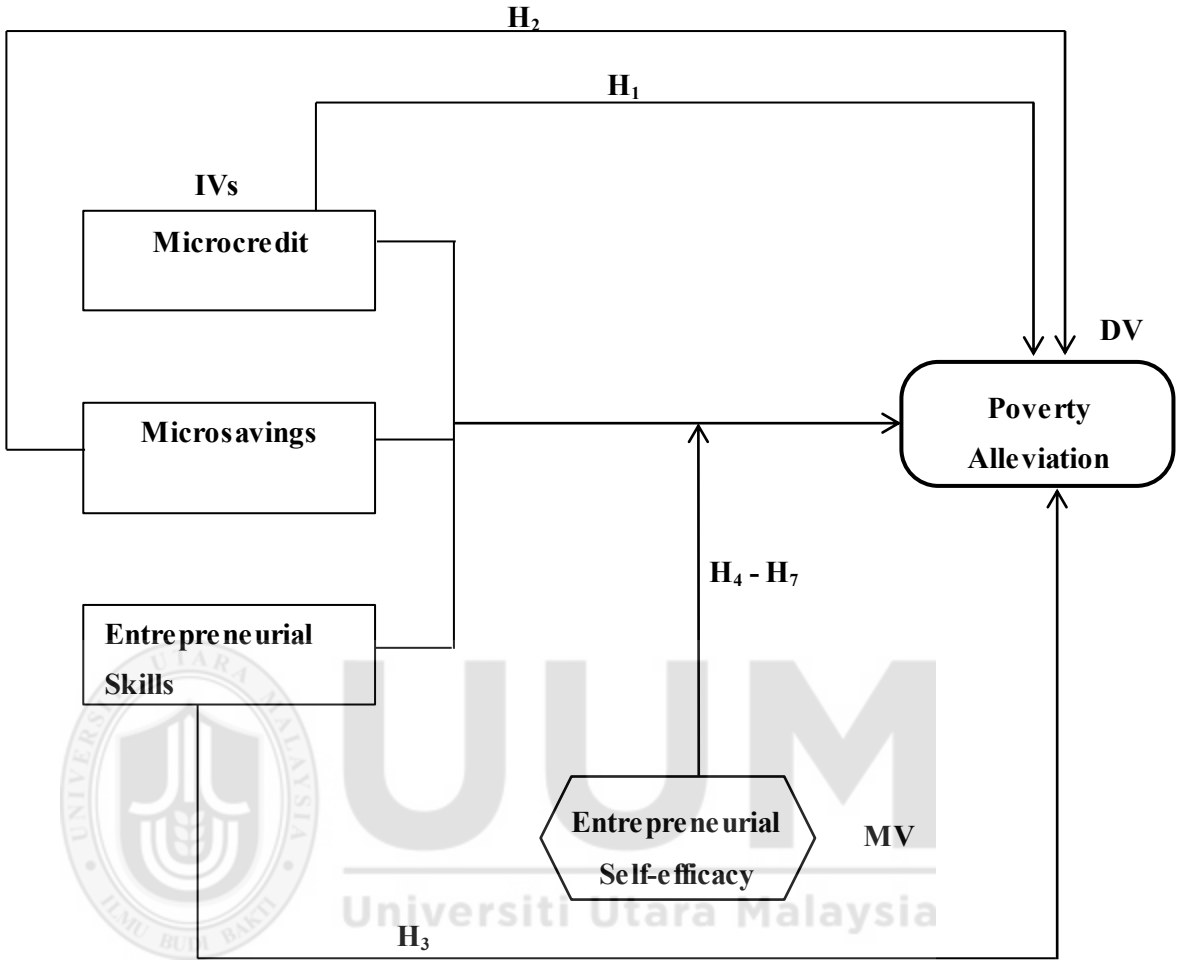

Figure 3.2
Research Hypotheses Framework

3.3 Research Design

There is no single best research design. The term ‗best' may only be applied to a design that helps the researcher to attain the stated research objectives (Zikmund et al. 2010). The researcher employs experimental survey design in this research work. The study strives to appraise the effects of microfinance on poverty alleviation through microcredit; microsavings; entrepreneurial skills; and entrepreneurial self-

efficacy as a moderator of the relationship. The choice of survey research was informed by the position of Iqbal, Iqbal and Mushtaq (2015) who posit that survey research is a veritable tool in ascertaining the link between MF and poverty. Thus, survey research is appropriate for the attainment of the stated objectives. In addition, as field experiment was used; all the research variables were studied with minimal interference (that of a control group) of the research settings by the researcher.

Researchers employ different methods of impact assessment of MFBs' operations on poverty. This is because the industry lacks standardized framework for such assessment (Hossain, 2012). Some studies are based on ‗before and after' poverty status of borrowers (Abbas, Sarwar, & Hussain, 2005; Shirazi & Khan, 2009; Kaboski, & Townsend, 2012) while others used treatment and control groups (Abiola, 2011; Aigbokhan, & Asemota, 2011; Hamdan et al. 2012). In this study, the research sample was segregated into treatment and control groups. These groups represent MFBs' clients who on one hand have successfully obtained microcredit and those whose applications have been turned down respectively. This is a quasi-experimental design where part of the sample (treatment group) are exposed to a treatment; in this case breaking the credit constraint and the result tested while the other part of the sample (control group) are not exposed to the treatment but are still tested (Zikmund et al. 2010). This design is known as post-test only with experimental and control groups; and sometimes referred to as static group design. Figure 3.3 explains the design.

Group	Treatment	Outcome
Experimental Group	X	O_1
Control Group		O_2

Source: Sekaran, 2016.

Where:

Treatment effect = $(O_1 - O_2)$

Figure 3.3
Post-test only with experimental and control groups

Moreover, participation form which spells eligibility or otherwise of prospective clients as well as loan registration of sample MFBs was used to get the target respondents for the study. This way, selection bias was minimized because at the point of registration the treatment and control groups are bound by a common attribute of being poor with the desire to improve their wellbeing. Equally, both groups were selected from similar financial institutions (MFBs) that exhibit some common attributes: focusing on targets neglected by conventional banks and smaller initial loans than subsequent ones. This has a positive effect of controlling non-random placement. Furthermore, cross-sectional data was generated and employed as responses that formed the data for this study were obtained at a given period of time instead of obtaining such data over a long period of time as is customary in longitudinal research.

3.4 Population of the Study

This study population are the unbanked poor of Northwest, Nigeria who are fortunate enough to find consolation in being customers of microfinance; as its demand outweigh its supply (Dogarawa, 2010). Table 3.1 gives the population frame for this study. Northwestern part of Nigeria is chosen for two reasons. First, out of the six geo-political zones in Nigeria, it is the 2nd most poverty stricken with 71% of actual poverty incident only lagging behind Northeast that has 72% (CBN, 2008) cited in Justine, Ighodalo and Okpo (2012). Secondly, it is the most populated geo-political zone in the country (National Bureau of Statistics -NBS, 2016). Northwest Nigeria is made up of seven states: Kano, Jigawa, Kaduna, Katsina, Sokoto, Kebbi and Zamfara. The region has a population of about forty million and formed about 25% of the total Nigerian population with a total landmass of 216,065 square kilometers which is occupied by Hausa-Fulani who predominantly share Islamic faith.

Additionally, among these seven states that form Northwest Kano has the lion share of the region‘s population. Created in 1967 the state has over thirteen million people which makes it the most populous state not only in the region but the country as a whole (NBS, 2016). However, in terms of landmass it is the least in Northwest with its 20,131 square kilometers. It is the leading commercial center in the country and is popularly described as center of commerce with chain of textile, tanning, plastics, enamelware and ceramic industries that make it the second largest industrial center

in the country and largest in the Northern region. The state is made up of three senatorial districts with a total of 44 local government councils.

Moreover, the study is focused on Northwest because of its high incidence of poverty of over 71% and confined to Kano State which has the highest population of which only 24% live above poverty (Alkire, Seth & Roche, 2013). Also, being a commercial nerve center of the country, with a lot of micro businesses people of varied beliefs and ethnic affiliation are drawn so as to avail themselves with series of economic activities in the state. In addition, all the MFBs not only in the Northwest but the entire country are mainly concerned with microcredit provision and therefore, little does it matter from where such services are being enjoyed. Thus, sample drawn from the population becomes homogeneous and allows for generalization.

Table 3.1
Population Frame

S/N	Name of microfinance bank	Year Est.	S/N	Name of microfinance bank	Year Est.
1	Grassroot MFB	2005	24	Wudil MFB	2008
2	Northbridge MFB	2008	25	Rakib MFB	2008
3	Dala MFB	2005	26	Albasu MFB	2013
4	Women Development Initiative MFB	2008	27	Bunkure MFB	2013
5	Kano West MFB	2008	28	Dawakin Kudu MFB	2013
6	Danbatta MFB	2005	29	DawakinTofa MFB	2013
7	Madobi MFB	2013	30	Makoda MFB	2013
8	GarimMalam MFB	2013	31	Bagwai MFB	2013
9	Takai MFB	2013	32	Tsanyawa MFB	2013
10	Sumaila MFB	2013	33	Kunchi MFB	2013
11	Gaya MFB	2013	34	Gabasawa MFB	2013
12	Ajingi MFB	2013	35	Rogo MFB	2013
13	Wudil MFB	2013	36	Kabo MFB	2013
14	Rano MFB	2013	37	Tofa MFB	2013
15	Kibiya MFB	2013	38	Kunbotso MFB	2013
16	Tudun Wada MFB	2013	39	RiminGado MFB	2013
17	Doguwa MFB	2013	40	Gezawa MFB	2013
18	Bebeji MFB	2013	41	Minjibir MFB	2013
19	Kiru MFB	2013	42	Gwarzo MFB	2013
20	Gwarzo MFB	2013	43	Garko MFB	2013
21	Shanono MFB	2013	44	Karaye MFB	2013
22	Kura MFB	2013	45	Ungogo MFB	2013
23	Bichi MFB	2013	46	Warawa MFB	2013

Source: Author's Field Survey

3.5 Sample Size and Sampling Design

There is no general thumb rule about a research sample size: it is usually determined taking into account nature of population and the purpose of the study. Many researchers however, view a samples size that is larger than 30 and less than 500 as appropriate (Churchill & Iacobucci, 2004). Additionally, where several variables are involved in a study using a larger sample size helps in attaining good results as fewer sample produces less consistent result due to higher sampling error (Asika, 2012). Additionally, inadequate sample size can produce result that cannot be said to be a true representative of the population and as a result, findings cannot be generalized (Boateng, Boateng & Bompoe, 2015). However, a sample size that is too large (for

example more than 500) could produce faulty result due to type II errors and consequently, wrong conclusion (Sekaran, 2016). Thus, researchers need to strike a balance between too large and too small sample size.

Customers of Dala MFB, Northbridge MFB, Women Development Initiative MFB, Grassroot MFB, Kano West MFB, Wudil, Rakib MFB and Danbatta MFB form the study sub-population being the selected registered MFBs in the study area. Two conditions must be fulfilled by these customers before they are selected as treatment group: they are funded by any of these MFBs; and they applied such funds in either establishing or expanding an existing income generating venture. Subjects in the control group on the other hand, are not customers of the MFBs; and they did not receive credit from the any of the MFBs.

It is important to state that one of the attributes of MFB is its smallness and simplicity of operations. Thus, to decide on which among loan applicants gets the loan, MFBs shuffle the application forms (normally a page per applicants) which are then numbered. Next, pieces of papers are then numbered and shuffled in a container and one drawn at a time until desired numbers of targeted beneficiaries are obtained. Consequently, those randomly drawn numbers are referred to the application forms which are then selected. This process helps in taking care of ethical consideration that might be raised in denying some subjects from being assigned to the treatment group. Equally, the problem of "nuisance variable" which could contaminate the cause and effect of the manipulated variable (credit) is taken

care of by this random grouping of subjects which spreads the contamination effects on all the subjects.

The first three MFBs in the population frame (see table 3.1) are located in the metropolitan city while the remaining are situated in three different senatorial districts of the state. This ensures that the study samples cover both rural and urban characteristics. A stratified sampling technique was used to proportionately draw samples from these MFBs. The use of these MFBs as strata conforms to the use of MFBs programs as strata by Hamdan et al. (2012). Stratified sampling is a procedure in which the study population is broken down into strata and then a fraction of the study sample is chosen from each stratum. This process produces data which represents the population and therefore, the mean of the sample strata gives unbiased estimates (though, rarely equal) of the population mean (Sekaran, & Bougie, 2016).

The use of stratified random sampling procedure is justified by its efficiency; in addition to the size (Sekaran, & Bougie, 2016) and nature of the population which is very unlikely to be fully represented by an unrestricted probability sampling design. With the study population in mind this research work adopted the sample size determination table of Krejcie and Morgan (1970) cited in Sekaran (2016) to obtain the research sample. The table is marked as appendix –A" and suggests 380 respondents as minimum sample size for a population that ranges between 40000 to less than 50000. Also, in an attempt to account for anticipated non-response as well

as sample size error and in line with the position of (Hair, Bush, & Ortinau, 2003) the researcher rounded up the minimum sample size to 400. Furthermore, the loan applicant register of selected MFB was used to draw a total of 200 respondents for the control group. The number for the control group from each MFB is proportionate to its treatment group. Thus, a number of unsuccessful loan applicants were selected from each MFB registers of loan application based on sample proportion shown in table 3.2. Thus, the sample for this study becomes 600 which was disaggregated into treatment and control groups with the treatment group taking 67% of the total. Consequently, a proportionate stratified sampling was used to obtain the 400 and 200 sample for the treatment and control groups respectively from all the MFBs (refer to table 3.2).

Table 3.2
Target MFBs

MFB	Pop	Calculation (Treatment)	No (A)	Calculation (Control)	No (B)	Total (A+B)
1 Grassroot MFB	1,790	1,790/44,305 x 400	16	1,790/44,305 x 200	08	24
2 North Bridge MFB	5,788	5,788/44,305 x 400	52	5,788/44,305 x 200	26	78
3 Dala MFB	11,304	11304/44305 x 400	102	11304/44305 x 200	51	153
4 Women Devt Initiative	2060	2,060/44,305 x 400	19	2,060/44,305 x 200	10	29
5 Kano West, MFB	7,367	7,367/44,305 x 400	67	7,367/44,305 x 200	33	100
6 Danbatta MFB	6,656	6,656/44,305 x 400	60	6,656/44,305 x 200	30	90
7 Wudil MFB	5,348	5,348/44,305 x 400	48	5,348/44,305 x 200	24	72
8 Rakib MFB, Kibiya	3,992	3,992/44,305 x 400	36	3,992/44,305 x 200	18	54
Total	**44,305**		**400**		**200**	**600**

Source: Author's Field Survey

This sample size is justified by previous studies: Haque and Yamao (2008) used 300; Aigbokhan and Asemota (2011) used 500; Hamdan et al. (2012) used 446; Ghalib, Malki and Imai (2015) used 1132; Enisan and Oluwafemi (2012) used 265; Nkpoyen and Eteng (2012) used 300 while Appah, Sophia and Wisdom (2012) used 400. In

addition, Sekaran and Bougie (2016) views that in a multivariate study the sample size should preferably be several times the number of the research variables.

As there is no available sample frame an attempt was made to randomize the sampling selection. Hence, the researcher had a preliminary discussion with operation desk officers of the eight MFBs so as to determine the average number of customers who visit the banks on daily basis. This number was identified and used as an estimate of the sampling frame for the eight MFBs (refer to Table 3.3).

Table 3.3
Sampling Frame

S/N	MFBs	Sample
1	Grassroot MFB	50
2	North Bridge MFB	90
3	Dala MFB	250
4	Women Development Initiative MFB	60
5	Kano West MFB	180
6	Danbatta MFB	120
7	Wudil MFB	100
8	Rakib MFB Kibiya	70
TOTAL		**920**

Source: Author's Field Survey

Moreover, to obtain the sampling interval for the systematic selection, the number of customers was divided by the needed sample size for each MFB. For instance, the sampling interval for Women Development Initiative was obtained as: $60/29 \approx 2$. Therefore, every customer with a tally number 2nd, 4th, 6th was selected to participate and in case such a customer refuses, then the next customer was selected. Thus, following this procedure every element of the population had a known and equal chance of being selected.

3.5.1 Expected Responses Rate Estimation:

A total of 600 questionnaires was distributed to both treatment and control groups with the former taking 67% and the latter having 33%. Ultimately, the researcher expected a response rate of 75% which will produce 450 responses. This figure or one that is not far beyond it can help bring down chances of type II errors (Sekaran, & Bougie, 2016). Previous studies that used different probability sampling techniques (see, for example Appah, Sophia & Wisdom, 2012; Hamdan et al. 2012; Enisan & Oni, 2012; Ogwumike & Akinnibosun, 2013) reported response rates of 71%, 88%; 91% and 86% respectively. This suggests that by achieving the expected response rate or a figure close to it, the result will still fall well above the minimum reasonable sample size of 200 observations for normal data and 400 observations for non-normal data (Hox, & Bechger, 1998).

3.5.2 Unit of Analysis:

According to Sekaran and Bougie (2016) a unit of analysis can be an individual, a group of individuals or dyads. Unit of analysis here points to the ‗level of aggregation' of researcher's data which he subjects to systematic analysis for meaningful generalizable result. As stated earlier, all the 44,305 borrowers of the selected registered MFBs formed the sub-population of this study. It follows therefore, that these MFBs' borrowers are the unit of analysis of this research work. According to Hulme (2000a), using individuals as a unit of analysis has the merit of being easily defined and identified. Consequently, the unit of analysis for this study conforms to previous MFBs' impact appraisal studies (see, for example Ahmed &

Siwar, 2014; Aigbokhan & Asemota, 2011; Appah, Sophia & John, 2012; Ghalib et al. 2014; Gupta & Manjunatha, 2013; Taiwo et al. 2014).

3.6 Data Collection Procedure

Data for the study was collected in four months period beginning from January 2017 to May 2017, covering 8 locations as listed in table 3.3. The researcher administered the questionnaire with the help of enumerators who were with the researcher at the survey locations so as to achieve dual goals of effective distribution and collection system while availing himself for clarification of any item of the questionnaire should the need arises. This hand delivery and collection method allowed for higher response rate than the mail questionnaire which has a history of very low response rate in Nigeria (Asika, 2012). Furthermore, the researcher did not use any form of motivation that may raise ethical question to solicit for prompt or timely responses. This reduced chance of incorrect and bias responses as respondents' independence is not in any way influenced.

3.6.1 Questionnaire Design

A questionnaire is an important instrument in survey research. The questionnaire allows the researcher to reach respondents who are otherwise inaccessible (Asika,2012); it is cheap, saves time and allows researcher to clarify items that are not clear to the respondent (Sekaran, & Bougie, 2016); and is easy to administer and produce data that is consistent (Malhotra & Birks, 2007). A questionnaire consists

of set of questions aimed at obtaining data to be used in answering research questions and testing stated hypotheses (Asika, 2012).

This study used a structured questionnaire of closed ended Likert scale questions. All the items of the questionnaire were adopted from previous research (see, table 3.4). The questionnaire begins with an introduction in which its purpose and the use to which solicited information would be put to are explained to respondents. Subsequent portion of the questionnaire is divided into six parts. The first part covers demographic information about respondents. The second parts through the fifth contain items that seek to obtain data on respondents' opinion on MFBs' microcredit, microsavings, borrowers' entrepreneurial business skills, and poverty alleviation. The last part contains items that ask respondents to provide information on their perceived entrepreneurial abilities (see, appendix B).

3.6.2 Responses Rating Scale

This study employed the five-point Likert scale (also known as summated rating scales) to measure all the items relating to the research constructs including the moderating variable. The measurement scale was "5" for strongly agree, "4" for agree, "3" for neither agree nor disagree, "2" for disagree and "1" for strongly disagree. The 5-point scale is viewed by Asika (2012) as the most common of the Likert scales. Furthermore, Asika added that although there are other scale standardizations the above scale calibration that descends rather than ascends ("5" for strongly agree to "1" for strongly disagree) is analytically more convenient

during data analysis and the sum of the responses allows researchers to easily reach a conclusion. In the last section of the questionnaire (section 6) the five-point Likert is scaled as follows: ―1" for very little (VL), ―2" for little (L), ―3" for neither little nor much (NLM), ―4" for much (M) and ―5" for very much (VM).

3.6.3 Control for Measurement Error

Responses obtained from respondents may not completely be correct as a result of biases; research constructs may be wrongly measured due to inappropriateness of the measurement which consequently pushes the researcher in arriving at erroneous findings as observed values failed to give a real picture of the ―true" values (Sekaran, & Bougie, 2016); or part of the correctly obtained data may be erroneously coded or recorded (Hair et al. 2010). Sekaran added that control for measurement error signifies steps taken by researchers to reduce chances of these errors so that research findings are as close to reality as possible and allow for a level of confidence on the results. With this objective in mind, the researcher confirmed measurement validity through content and face validity. The instrument was presented to five (5) experts who are lecturers and MFBs staff from various locations where the study was carried out for their opinion and input pertaining the content and face validity (see appendix B1). Similarly, the result of confirmatory factor analysis was used to confirm the convergent and discriminant validity.

3.7 Goodness of Measure

Testing the construct validity and reliability for further analysis is of paramount significance. Researchers widely use factor analysis to assess the validity of a measurement. In this study factor analysis was performed using principal component analysis to measure the construct validity of the instrument so as to identify and define the components or factors underlying a set of the research variables (Hair et al. 2010)[24]. In this regard, the analysis diminishes a large set of correlated variables to a lesser hypothetical features and factors underlying the correlations. Thus, it defines sets of variables that are highly interrelated which are otherwise referred to as factors; by providing the tools for analyzing the structure of the interrelationships among the variables.

3.7.1 Test of Validity

Validity simply refers to the extent to which a measure or set of measures correctly represents a concept and therefore, shows the degree to which it is free from any non-random error. Validity is the degree to which an instrument measures what it is designed to measure. In this study validity was assessed using factor analysis.

3.7.1.1 Face Validity

According to Asika (2012), the concept of validity is broadly categorized into two: instrument; and findings. Every instrument is developed or adopted for the purpose of a specific measurement. An instrument is described as valid if it measures what it

[24] Factor analytic techniques can either be exploratory or confirmatory. There is however, an on-going debate among scholars on whether it is merely a means of data reduction or a tool for structure searching among a set of variables (Hair et al. 2010).

is designed to measure as proven by certain validity test (Sekaran, & Bougie, 2016). Face validity is the basic and minimum index of content validity. According to Sekaran (2016) face validity is an aspect of validity that evaluate whether the item on the scale, reads (on the face of it) as if it indeed measures what it is meant to measure. It indicates (from its face value) that the items that are designed to measure a concept seem to measure that concept. Face validity is the subjective consensus among professionals that the scale reflects the concept being measured (Zikmund, 2010).

3.7.1.2 Content Validity

As stated earlier in section 3.1 all the items of this research questionnaire were adopted from previous studies as shown in table 3.4. The instrument was presented to some experts for their opinion on the suitability of the instrument with regards to the study. Experts here include a professor and two senior lecturers in COB UUM. Similarly, two experts from the banking industry (microfinance) were given the instrument for eliciting their opinion and comments. They therefore opined that the instrument measures what was designed to measure. Based on the feedback received, it was appropriate to proceed with the application of the instrument on the subjects. Consequently, a reliable and already validated instrument was used to obtain the data for this study.

3.7.1.3 Exploratory Factor Analysis (EFA)

All the measurement scales in this study were adopted as explained in the previous chapter, yet there is a need for EFA because of the variation in the research location. EFA is used to define the underlying structure among the study variables (Hair et al. 2010). The need for factor analysis arises due to the possibility of overlapping among variables in a multivariate analysis. In this study, all the variables (both exogenous and endogenous) were analyzed using Principal Component Analysis (PCA).[25] The essence of this analysis is to test the validity of the research construct. According to Pallant (2007), certain conditions must be fulfilled before EFA is undertaken. These conditions include an adequately large sample; each construct should have at least three items for its measurement and strong intercorrelation coefficients that is greater than 0.3 among the items. It is worth restating here that how large a sample size should be is a subject of debate among scholars. However, this study has well over 400 samples, measurement items range between five to ten for each construct and several items intercorrelation of 0.3 and above as shown by correlation analysis suggesting that the requirements for EFA were attained.

This study instrument contains a total of 38 items broken down as: 28 items for the exogenous variables including the moderator and 10 items for the endogenous variable (refer to Appendix B), which were put to principal component analysis

[25] PCA considers the total variance (not shared variance) and derives factors that have elements of unique variance (variance that is only associated with a specific variable) and, in some cases, error variance.

using SPSS version 23. The fulfillment of the conditions stated above proves that the researcher could continue with the factor analysis.

Given the sample size of this study, factor loading of 0.30 and above is deemed acceptable and significant.[26] However, factor loading of 0.3 is only the minimum acceptable value but values greater than 0.5 are considered necessary for practical significance (Hair et al. 2010). Therefore, this study takes 0.5 factor loadings as the acceptable significant value. A table which gives the criteria for identifying significant factor loadings relative to study sample size is given in Appendix E.

3.7.1.3.1 Results of Exploratory Factor Analysis

Principal Component Analysis was run first without rotation for all the variables.[27] In line with the position of Hair et al. (2010) the data was split into two to reflect the two groups (treatment and control). The analysis of the treatment group (refer to Appendix H1) showed the presence of ten components with eigenvalues greater than 1 (>1). The ten components explained a total variance of 64% which exceeds the minimum yardstick of .60. Communalities show the proportion of the variance in the original variables that is accounted for by the factor solution. Statistically, the value of the communality for each original variable should be 0.50 and above so that it can explain half of those original variables (Hair et al. 2010). Thus, any item that has a lower communality value might be discarded. It can be observed from the

[26] For a study with a sample size of 350 and above, factor loadings of $\geq$.30 is considered significant for interpretative purposes (Hair et al. 2010). However, with lower sample size the factor loading increases.

[27] Rotating a factor suggests a process through which factor axes are adjusted or manipulated such that simple and more meaningful factor solution is achieved.

communalities table (see Appendix F2) that Only two of the variables (MC 6 and MF 10) have communality values of 0.387 and 0.419 which are below the acceptable bench mark of 0.50. An investigation into the KMO and Barlett test of Sphericity revealed a value of .853 measure of sampling adequacy and a significant p value of 0.000 which are all above the minimum recommended values of 0.60 and $p \leq 0.5$ respectively (Appendix F3a). Equally, the unrotated component matrix (Appendix F1) shows that the factor loadings failed to create a form of simple structure due to the presence of cross-loadings. As a result of this cross-loadings coupled with the fact that rotated loadings are normally used in factor interpretation (Hair et al. 2010) makes the researcher to rotate the loadings using Varimax rotation technique.

The rotation process produced almost the same result with eigenvalues that exceeded 1 as well as KMO and Bartlett's test above minimum bench mark. It however, improved the commonalities values, factor-loadings and reduced the cross-loading problem. Despite this positive effect of rotation on the factor structure, a number of variables (MC6 and MF10) have commonalities values lower than the minimum threshold value (refer to Appendix F2). Consequently, in line with the submission of Hair et al. (2010) those variables were marked and deleted. Following the deletion of those variables the analysis was rerun. The result of the rerun is shown in table 3.4.

Table 3.4
Rotated Component Matrix for all variables

Items Description	Item NO.	Components								
		1	2	3	4	5	6	7	8	9
Entrepreneurial Self-efficacy (10 items):										
Exchange info with other entrepreneurs	36	.767								
Manage financial assets of your business	38	.745								
Determine a product's competitive price	33	.710								
Maintain financial records of business	37	.695								
Come up with good marketing campaign	34	.683								
Clearly explain your business idea	35	.651								
Estimate the start-up money for business	32	.596								
Come up with a new idea for a product	29						.712			
Design a product/service for customers	31						.673			
Identify the need for a product/service	30						.604			
Entrepreneurial Skills (7 items):										
I always give my customers good services	15		.789							
I achieve good inventory management	13		.745							
I employ marketing /selling strategies	12		.719							
I use the amount borrowed for business	16		.691							
I separate business from personal expense	17		.672							
I plan and manage business budget	14		.656							
I promptly keep business financial records	18		.555							
Microfinance (09 items):										
Microfinance improves housing condition	22			.827						
Microfinance helps in affording transport	24			.742						
Microfinance helps in affording medicatn	20			.691						
I now have radio, TV and hot plate	26			.656						
Microfinance improves sanitation	27			.631						
Microfinance improves school attendance	21				.857					
Microfinance gives me good clothes	23				.795					
I now afford to pay electricity bills	25				.768					
Microfinance gives me nutritious food	19				.722					
Microsavings (05 items):										
Mandatory savings secures the loan	08					.778				
Voluntary saving helps me to repay loan	09					.714				
Voluntary savings helps household needs	10					.704				
Voluntary savings improves business	11					.660				
Mandatory saving is requirement for loan	07					.659				

Table 3.4 Continue

Items Description	Item NO.	Components								
		1	2	3	4	5	6	7	8	9
Microcredit (04 Items):										
Microcredit helps to start new business	01						.794			
Microcredit increased my income	04								.767	
Household income contribution improved	05								.581	
Microcredit increased agro production	03									.800

Extraction Method: Principal Component Analysis (PCA)

Rotation Method: VARIMAX with Kaiser Normalization

a Rotation converged in 8 iterations

Components Eigenvalue: ≥ 1

Group = Treatment

The table above shows that the rotation process which converged in eight iterations reduced the components from ten to nine; with considerable improvement in both loadings and structure as high loadings are associated with only a single factor for each variable. The nine components have eigenvalues that range between 1.07 and 8.15 (greater than 1) and explained cumulative total variance of 63.3% (see Appendix F5). Communalities values got better with values of 0.524 and 0.778 representing the lower and upper values respectively (refer to Appendix F6). All the variables are arranged according to the degree of their loadings starting with the highest value to the lowest in each component. All items under Entrepreneurial self-efficacy load highly on components 1 and 6. Seven items loaded on component 1 with loading values ranging from 0.767 to 0.596 while items in component 6 ranged between 0.712 and 0.604. Taking into account item with highest factor loadings, component 1 dimension was named self-efficacy in information exchange with other

entrepreneurs; while that of component 6 was identified as self-efficacy in developing new idea for a product or service.

All the seven items under entrepreneurial skills loaded on the second component. The component's loading values ranged between 0.789 and 0.555 which are all above the threshold value. Similarly, five items relating to microfinance with factor loading values ranging from 0.827 to 0.631 load on component 3 while four items relating to the same variable, with rotated factor loadings between 0.857 and 0.722 load on component 4. Thus, the new composite items are grouped under the names: children school attendance; and housing conditions as items describing these new dimensions have higher factor loadings. Component 5 contains microsavings items with rotated factor loading values as high as 0.778 and as low as 0.659. Microcredit items load on three different components (7, 8 and 9) with the highest loading value of 0.800 resting on component 9, followed by 0.794 on component 7 while loading values of 0.767 and 0.581 rested on component 8. Again, item number 2 of the same variable has no significant factor loading and was therefore discarded.

With the said items deleted the analysis was run again. The results indicated no significant difference. The rotation process converged in 11 iterations and showed the presence of the same nine components with eigenvalues greater than 1. These components explained a total variance of 64.12% which recorded an increase of 0.73% and exceeds the minimum yardstick. The eigenvalue ranged between 1.002 and 8.131 (see Appendix F8). Also, the Bartlett's Test of sample adequacy stood at

3390.638 with a degree of freedom of 595 and significance level of .000. All the commonality values (except the value corresponding to MC1) are above the minimum threshold of 0.5.

The rotated component matrix after items deletion presented a less complex factor solution in which six high value items loaded on component 1 with the highest value of 0.760 and lowest value of 0.615. The second component has seven loadings that ranged between 0.808 and 0.525. Similarly, component 3 contains five items with factor loadings that ranged from 0.826 to 0.626. Four items loaded on component 4 with a high value of 0.868 and 0.742 being the lowest in the component. The matrix table also disclosed that both components 5, 7 and 8 have three items each while the sixth and ninth components has two and one item respectively. Further, the matrix table equally revealed that the first item (MC1) has no significant factor loading and was therefore deleted.

Table 3.5
Rotated Component Matrix for all variables after deletion

Items Description	Item NO.	Components								
		1	2	3	4	5	6	7	8	9
Entrepreneurial Self-efficacy (10 items):										
Exchange info with other entrepreneurs	36	.760								
Manage financial assets of your business	38	.731								
Determine a product's competitive price	33	.725								
Maintain financial records of business	37	.718								
Come up with good marketing campaign	34	.702								
Clearly explain your business idea	35	.685								
Estimate the start-up money for business	32	.615								
Come up with a new idea for a product	29							.650		
Identify the need for a product/service	30							.628		
Design a product/service for customers	31							.509		
Entrepreneurial Skills (7 items):										
I always give my customers good services	15		.808							
I achieve good inventory management	13		.760							
I employ marketing /selling strategies	12		.729							
I separate business from personal expense	17		.681							
I use the amount borrowed for business	16		.664							
I plan and manage business budget	14		.612							
I promptly keep business financial records	18		.525							
Microfinance (09 items):										
Microfinance improves housing condition	22			.826						
Microfinance helps in affording transport	24			.740						
Microfinance helps in affording medicatn	20			.718						
I now have radio, TV and hot plate	26			.647						
Microfinance improves sanitation	27			.626						
Microfinance improves school attendance	21				.868					
Microfinance gives me good clothes	23				.788					
Microfinance gives me nutritious food	19				.753					
I now afford to pay electricity bill	19				.742					
Microsavings (05 items):										
Voluntary savings helps household needs	10					.810				
Voluntary saving helps me to repay loan	09					.791				
Voluntary savings improves business	11					.506				
Mandatory saving is requirement for loan	07						.783			
Mandatory saving secures the loan	08						.779			

Table 3.5 Continue

Items Description	Item NO.	Components								
		1	2	3	4	5	6	7	8	9
Microcredit (04 Items):										
Microcredit increased my income	04								.732	
Household income contribution improved	05								.582	
Microcredit helps to start new business	01								.449	
Microcredit increased agro production	03									.776

Extraction Method: Principal Component Analysis (PCA)

Rotation Method: VARIMAX with Kaiser Normalization

a Rotation converged in 8 iterations

Components Eigenvalue: ≥ 1

Group = Treatment

It therefore, becomes clear that the factor solution achieved was not the best the researcher could get: there should be at least three or more items loading on each component (Pallant, 2011). Accordingly, in an attempt to achieve an optimum factor structure and in line with the Pallant's position smaller number of components needs to be extracted (one less). However, the SPSS extraction default (based on eigenvalues) had to be changed to force' a smaller – eight-factor solution. The eight-components extracted still did not give an optimum solution; so, the extraction process was repeated with the one less' approach which then produced a seven-factor solution as shown in table 3.6:

Table3.6
Rotated Component Matrix (7 „force"Components after items deletion)

Rotated Component Matrix[a,b]

Items Description	Item No.	Component						
		1	2	3	4	5	6	7
Exchange info with other entrepreneurs	36	.763						
Manage financial assets of your business	38	.741						
Determine a products' competitive price	33	.707						
Maintain financial records of business	37	.696						
Come up with good marketing campaign	34	.691						
Clearly explain your business idea	35	.655						
Estimate the start-up money for business	32	.607						
I always give my customers good services	15		.788					
I achieve good inventory management	13		.739					
I employ marketing /selling strategies	12		.719					
I use the amount borrowed for business	16		.697					
I separate business from personal expense	17		.675					
I plan and manage business budget	14		.664					
I promptly keep business financial records	18		.566					
Microfinance improves housing condition	22			.824				
Microfinance helps in affording transport	24			.737				
Microfinance helps in affording medicatn	20			.688				
I now have radio, TV and hot plate	26			.654				
Microfinance improves sanitation	27			.646				
Microfinance improves school attendance	21				.851			
Microfinance gives me good clothes	23				.795			
I now afford to pay electricity bills	25				.769			
Microfinance gives me nutritious food	19				.723			
Mandatory savings secures the loan	08					.778		
Voluntary saving helps me to repay loan	09					.708		
Voluntary savings helps household needs	10					.700		
Mandatory saving is requirement for loan	07					.679		
Voluntary savings improves business	11					.662		
Come up with a new idea for a product	29						.702	
Design a product/service for customers	31						.669	
Identify the need for a product/service	30						.591	
Microcredit increased my income	04							.718
household income contribution improved	05							.611
Microcredit increased agro production	03							.602

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Group = Treatment
b. Rotation converged in 6 iterations.

Table 3.6 above gives the rotated PCA result for all the variables. It presented an optimum factor solution with 7 components where each variable highly loaded on

only one component. The Kaiser Meyer-Olkin measure of sampling adequacy revealed a value of .859 while the Barlett test of Sphericity (approx. chi-square) was 3864.057. The degree of freedom stood at 561 while the p value was significant at 0.000 (refer to Appendix F7). The analysis also revealed the extracted components having eigenvalues ranging between 1.15 and 8.03. The rotation which converged in six iterations was done using Varimax with Kaiser Normalization method. The total variance explained by the first five components was 23.63%, 8.94%, 7.12%, 6.54% and 5.54% respectively while the seven components put together explained 59.14% (see Appendix F10). Although, the cumulative variance explained is lower than 0.6; it is still acceptable (Hair et al. 2010). Most of the variables have communality values that exceed the minimum benchmark of 0.50 (refer to Appendix F11). The table therefore, presented a simple factor loading structure devoid of any significant multiple loadings on more than a component.

Summarily, it is worthy of note here that table 4.8 above gives the result of factor analysis performed on all the variables simultaneously. Entrepreneurial self-efficacy and microfinance constructs loaded on two different components; and as a result, four composite dimensions emerged: self-efficacy in information exchange; self-efficacy in developing new idea for a product/service; children‘s school attendance; and housing condition. Further, high loadings in all the components (ranging between .566 and .851) attests that the indicators are strongly related to their various constructs and in turn, indicates construct validity (Hair et al. 2010). Again, the

result proves that each of the independent variable is not only unidimensional but factorially distinct as well.

The PCA as reported above was undertaken to validate the constructs. The process resulted in the deletion of items No. 1, 2, 6, and 28 giving a total of four deleted items. Thus, the deleted items cut across the dimensions without significantly affecting them. Furthermore, as two of the variables loaded on two different components; each of those components was named based on the highest loading item in the component.

The rotated component matrix for the control group revealed that the Keiser-Meyer-Olkin measure of sample adequacy was .609 and the Bartlett's Test of Sphericity was given as 1625.558 while the degree of freedom was 630 at significance of .000. Twelve components are easily discernable from the total variance explained table. The eigenvalue values of the extracted component ranged between 1.08 and 3.98. Equally, the cumulative variance explained by the components was 67.67%. Six items loaded on component 1; three items each on components 2, 3, 5, 8 and 10 while components 4, 6, 7, 11 and 12 have only an item loading. Lastly, component 9 has two items loading (refer to Appendix G1). The group's communalities showed high values for all the items ranging between .535 and .800. This solution was rotated over and again (as was done with the other group) until a better structure was achieved (refer to Appendix G4).

3.7.1.4 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) refers to statistical modeling technique employed for the purpose of model's parameter estimate (Zikmund 2010). The model in CFA comprises of both the observed variables and the latent (unobserved) variables specified by the theoretical construct. Researchers use CFA to assess the model's unidimensionality, reliability and validity. Thus, CFA for all the latent constructs for this study was performed.

The unidimensionality condition is attained by ensuring that all the measuring items have factor loadings that do not fall below the threshold value of 0.50 (Hair et al. 2010). As seen earlier on all those items with loadings below the bench mark (cut off point) where marked and deleted one at a time with the lowest loading value going first followed by the lower loading next to it. This way, any item that attained positive cut off value is retained for further analysis.

The discussion on reliability (see the reliability of latent construct) clearly indicates the reliability of the study constructs given by the Cronbatch's Alpha coefficients (refer to table 4.9, 4.10 as well as Appendix H1–H5). Again, the factor loadings from the PCA which are above the threshold values concur with the Cronbatch's Alpha coefficient in ascertaining the reliability of the study constructs. And as would be seen shortly, the composite reliability values will add weight to the reliability of the construct.

3.7.1.5 Convergent Validity

According to Hair et al. (2010) validity is the ability of an instrument to measure what it is meant to measure for a latent construct. The focus here is accuracy with which a measure assesses the intended concept. That is to say, validity seeks to reveal the degree or how accurate does a measure capture or measure what it is designed to measure (Zikmund, 2010). Convergent validity is a component of a construct validity which requires that concepts that should be related to one another are in fact related. It is therefore, the degree of confidence we have that a construct is well measured by its indicators. Based on the criterion of Fornell Larcker (1981) convergent validity of measurement model can be assessed with the use of average variance extracted (AVE) as well as composite reliability (CR).

Three criteria have to be met for a construct convergent validity to be achieved: all items measuring the construct must have a significant level of factor loading; composite reliability value of $\geq$ 0.60; and AVE value of $\geq$ 0.50 (Jayasinghe-Mudalige, Udugama, & Ikram, 2013). Notwithstanding, researchers need to critically evaluate their models taking into account their specific characteristics (number of items involved for example); and establish appropriate cut-off points for these characteristics (Valentini, 2016)[28]. The argument for high AVE value is made because if it falls short of 0.5 the proportion of the variance captured by the construct is less than the variance due to measurement error which in turn, makes the validity of the indicator and that of the construct to be doubtful. However, Fornell and

[28] Cut-off points are relative as number of items affects their outcome. In fact, they may limit result interpretation.

Larcker, (1981) opined that with AVE value lower than 0.5 and a corresponding composite reliability higher than 0.6; the convergent validity of the construct is still adequate.[29] It is on this premise that Huang et al. (2013) and Safiih, (2016) submitted that 0.4 AVE value is acceptable so long as composite reliability greater than 0.6 is achieved.

Table 3.6 lends a picture of the strength of factor loadings for this study constructs. It can be observed from the table that the variables loaded highly on all the components. Each of the items has loading value on its associated construct exceeding the threshold value of $\geq$ 0.50: the upper range of the loading is 0.851 while the lower range is 0.566. The internal consistency reliability as depicted by Cronbach's Alpha coefficient ranged between 0.720 and 0.849, clearly exceeding the threshold value of 0.6 as suggested by Hair et al. (2010). All these put together, point to the good quality internal consistency and validity of the total scales. Table 3.7 gives the calculated (using excel simplified calculator) composite reliabilities (CR) and AVE values for the constructs:

Table 3.7
Composite reliability and AVE table for all the constructs

S/N	Variable	AVE	CR
1	Microcredit	0.417	0.681
2	Microsavings	0.499	0.832
3	Entrepreneurial Skills	0.484	0.867
4	Microfinance	0.562	0.851
5	Entrepreneurial Self-efficacy	0.457	0.779

Source: Author's Field Survey

[29] Construct validity is concerned with the underlying attributes rather than with the scores the instrument produces (Ghadi et al. 2012)

The convergent validity of the constructs is discussed below:

3.7.1.5.1 Microcredit Scale

The factor loadings of the individual items measuring the construct of microcredit attained significance value above the minimum bench mark. The AVE and CR values of 0.417 and 0.681 have met the criteria. Again, the Cronbatch's Alpha value stands at 0.724 suggesting a good internal consistency. Thus, the analysis indicates that the convergent validity of the construct of microcredit is within the recognition value. Table 3.8 summarizes the result discussed.

Table 3.8
Confirmatory Factor Analysis of Microcredit Scale

Variable	Factor Loading	Cronbatch's Alpha	Composite Reliability (CR)	Average VE (AVE)
MC3	0.602	0.724	0.681	0.417
MC4	0.611			
MC5	0.718			

Source: Researcher

3.7.1.5.2 Microsavings

Table 3.8 contains the confirmatory factor analysis of microsavings. The table shows that the Cronbatch's Alpha coefficient is 0.755. The factor loadings for all the items measuring the construct are at significance level while the AVE and CR have values of 0.499 and 0.832 respectively. Hence, the analysis indicates that the convergent validity of the construct falls within the acceptable level.

Table 3.9
Confirmatory Factor Analysis of Microsavings Scale

Variable	Factor Loading	Cronbatch's Alpha	Composite Reliability (CR)	Average VE (AVE)
MS1	0.679	0.753	0.832	0.499
MS2	0.778			
MS3	0.708			
MS4	0.700			
MS5	0.662			

Source: Researcher

3.7.1.5.3 Entrepreneurial Skills

Entrepreneurial Skills scales have a Cronbatch's alpha value of 0.81 with high factor loadings ranging from 0.566 to 0.788 which indicates level of significance. The CR and the AVE values stand at 0.867 and 0.484 respectively. This therefore, suggests that the convergent validity of entrepreneurial skills is within the recognition value. Table 3.10 below gives the CFA of the construct.

Table 3.10
Confirmatory Factor Analysis of Entrepreneurial Skills Scale

Variable	Factor Loading	Cronbatch's Alpha	Composite Reliability (CR)	Average VE (AVE)
ES1	0.719	0.807	0.867	0.484
ES2	0.739			
ES3	0.644			
ES4	0.788			
ES5	0.697			
ES6	0.675			
ES7	0.566			

Source: Researcher

3.7.1.5.4 Microfinance

Scales relating to microfinance have a Cronbatch's Alpha coefficient of 0.85 and each individual measurement item has significance factor loading values ranging from 0.646 to 0.824. The CR and AVE are 0.85 and 0.56 which means they are within the cut-off points and as a result, prove that the convergent validity of the construct falls within the recognition value. Table 3.11 gives the CFA result for the construct.

Table 3.11
Confirmatory Factor Analysis of Microfinance Scale

Variable	Factor Loading	Cronbatch's Alpha	Composite Reliability (CR)	Average VE (AVE)
MF1	0.723	0.849	0.851	0.562
MF2	0.688			
MF3	0.851			
MF4	0.824			
MF5	0.795			
MF6	0.737			
MF7	0.769			
MF8	0.654			
MF9	0.646			

Source: Researcher

3.7.1.5.5 Entrepreneurial Self-efficacy (ESE)

Table 3.12 revealed the result of CFA for ESE with items having significant values. The Cronbatch's Alpha value is 0.838. Both the factor loadings and the alpha values are sufficient and exceed the threshold values. The CR and AVE values are given as 0.779 and 0.457 respectively. Consequently, the analysis discloses that the

convergent validity of the construct is within the recognition value. Table 3.12 presents the CFA analysis for Entrepreneurial Self-efficacy scale.

Table 3.12
Confirmatory Factor Analysis of Entrepreneurial Self-efficacy Scale

Variable	Factor Loading	Cronbatch's Alpha	Composite Reliability (CR)	Average VE (AVE)
ESE1	0.702	0.838	0.779	0.457
ESE2	0.591			
ESE3	0.669			
ESE4	0.607			
ESE5	0.707			
ESE6	0.691			
ESE7	0.655			
ESE8	0.763			
ESE9	0.696			
ESE10	0.741			

Source: Researcher

3.7.1.6 Discriminant Validity

Discriminant validity shows how distinct a measure is. That is to say, with an attainment of this form of validity a scale should not correlate too highly with a measure of a different construct. Zikmund, (2010) opined that a high correlation coefficient above 0.75 between two scales makes discriminant validity very questionable. Thus, related concepts should not highly correlate to the point that they cease to be independent. This suggests that a greater level of this form of validity indicates that a latent variable is unique by capturing some phenomena that are out of scope of other variables.

The discriminant validity for a construct can be obtained by looking at the AVE values alongside the squared correlation estimate for the construct. This is known as the Fornell-Larcker criterion (Henseler, Ringle & Sarstedt, 2014). In this case, the AVE value should exceed the squared correlation estimate for discriminant validity to be achieved (Hair et al. 2010). Alternatively, discriminant validity can be obtained by comparing the squared of AVE for a given construct with the correlation coefficient of that variable and all other variables. This study employed the former technique in establishing the discriminant validity of the construct.

Table 3.13
Constructs"Discriminant Validity

S/N	Constructs	MC	MS	BS	MF	ESE
1	Microcredit (MC)	**0.42**				
2	Microsavings (MS)	0.16	**0.50**			
3	Entrepreneurial Skills (ES)	0.06	0.06	**0.48**		
4	Entr. Self-efficacy (ESE)	0.07	0.09	0.12	**0.46**	
5	Microfinance (MF)	0.37	0.16	0.08	0.17	**0.56**

Note: Bolded diagonals are the AVE values while other entries are the squared correlations.

Table 3.13 gives the result of discriminant validity analysis of the study constructs. It presents a squared correlation matrix with AVE values presented along the diagonal of the matrix. It can be observed that the AVE value in each column exceeds the squared correlations for that column; indicating the attainment of discriminate validity. The table also discloses that MF construct has the highest AVE value of 0.56 while the lowest value of 0.42 goes to the MC construct. In conclusion, the result shows that each variable shares more variance with its items than with other constructs, which confirms discriminant validity (Hair et al. 2010).

Furthermore, after conducting the PCA and CFA the need still exists for ensuring the reliability of the latent variables after items deletion.

3.7.2 Test of Reliability

Instrument reliability suggests that given the same assumptions and conditions the instrument will produce a consistent result when applied by an independent person in replicating the study elsewhere (Asika, 2012). Researchers conduct different type of tests to examine instrument reliability. These include Test-re-test and Cronbach's Alpha reliability coefficient which is obtained by pairing measurement items and averaging intercorrelation for all paired items (Asika, 2012). According to Zikmund et al. (2010), the Cronbach's Alpha is also known as inter-item consistency reliability and its acceptance rule is given as reliabilities of .70; over .80 and less than .60 and interpreted as acceptable, good and poor respectively. And the closer the reliability coefficient is to 1.0 the better. This study employed the Cronbach's Alpha reliability coefficient to test the instrument's reliability.

3.7.2.1 Reliability of Latent Variables

The data generated by the 414 usable questionnaires was subjected to statistical analysis. Measure of reliability was assessed using internal consistency indicated by a Cronbach's Alpha value which is obtained by pairing measurement items and averaging intercorrelation for all paired items; hence the name ‗inter-item' consistency reliability (Zikmund et al. 2010). The justification for the use of Cronbach's alpha in reliability determination in this study finds its root in the fact

that the method is not only suitable for field survey but requires only one administration of a single measuring instrument. In addition, Sekaran, and Bougie, (2016) opined that Cronbach's alpha is the most popular test of interitem consistency reliability and a perfectly adequate means of estimating internal consistency where lots of items are involved (Trochim, 2006).

Table 3.14
Reliability Statistics Table

Cronbach's alpha	No of items
0.730	5

Source: Reliability Statistics

Table 3.14 shows that the value of Cronbach's alpha for all the variables is 0.730 which is higher than the acceptable value criterion of 0.60 as suggested by Hair et al. (2010). Nevertheless, the individual construct Cronbatch's Alpha based on standardized items is 0.720 for microcredit; 0.755 for microsavings; 0.807 for entrepreneurial skill; 0.849 for microfinance and 0.838 for entrepreneurial self-efficacy (refer to table 3.15). Generally, Cronbach's alpha reliability coefficient of 0.90 and above is viewed as excellent; more than 0.80 is seen as good; 0.70 and above is acceptable while coefficients that are more than 0.60, greater than 0.50 and less than 0.50 are categorized as questionable, poor and unacceptable respectively(John & Reve, 1982). However, other scholars for instance Hair et al. (2010) recommended a lower reliability coefficient value of 0.60 as reliable. This position, may not be divorced from the fact that very high alpha coefficient could

indicate item(s) redundancy or narrow coverage of the constructs which then lowers scale validity (Panayides, 2013).

Table 3.15
Reliability Statistics Table for items relating to individual constructs

S/N	Construct	Cronbatch's Alpha	Standardized items Cronbatch's Alpha	No of Items
1	**Microcredit**	0.724	0.720	03
2	**Microsavings**	0.755	0.755	05
3	**Ent. Skills**	0.807	0.807	07
4	**Microfinance**	0.849	0.849	09
5	**Ent. Self-efficacy**	0.838	0.838	10

Source: Descriptive statistic

Table 3.15 shows that the Cronbatch's Alpha for microcredit (0.724) is the lowest for all the constructs while the highest is in relation to microfinance (0.849). Based on the submission of Hair et al. (2010) all the Alphas are adequate and indicate reliability attainment. Table 4.10 therefore, revealed that the study constructs have internal consistency; and that all measures represent the same latent construct consistently. Full reliability test results are given in Appendix H1–H5.

3.8 Data Analysis Technique

According to Sekaran (2016) research data are analyzed with the motive of testing how well research questions were outlined for capturing the concept (feel for the data); how valid and reliable the data is; as well as testing the research hypothesis. Data obtained in this study was analyzed using descriptive and inferential statistics.

These aspects of statistics allow a researcher to code, summarize and analyze the data for meaningful interpretation (Zikmund et al. 2010). Standard multiple regression and hierarchical regression were used for the analysis. However, prior to the regression analysis, several procedures were undertaken to ascertain the suitability of the data for the analysis.

First, the data was screened and cleaned with the motive of identifying and treating both the missing values and outlaying cases. Descriptive statistics including percentages and frequency distributions were used to give meaning to demographic information of the respondents. The Cronbach's Alpha coefficient was calculated to obtain the reliability of the construct. The validity was ascertained using factor analysis and calculating convergent and discriminant validity to authenticate whether the respondents consider the constructs as unique and distinct from others. The essence of factor analysis is to identify small number of dimensions, components or factors underlying a relatively large set of variables and reduce them to small, but meaningful factors (Pallant, 2011). Consequently, principal component analysis (PCA) and confirmatory factor analysis (CFA) were conducted.

3.8.1 Standard Multiple Regression and Hierarchical Regression

Standard multiple regression allows for analyzing several independent variables against a dependent variable simultaneously. Multiple regression gives the relationship between two or more predictor variables and criterion variable (Pallant, 2011). The motive behind multiple regression analysis is to examine the predictive

power of the independent variables on the dependent variable. Therefore, as this technique can simultaneously perform rigorous assessment of the relationship between the predictor variables and the criterion variable it becomes ideal for this study which appraises the effects of microcredit and microfinance factors of microsavings, entrepreneurial skills with the moderating effect of entrepreneurial self-efficacy on poverty alleviation.

Hierarchical regression was employed to test the moderation effect of entrepreneurial self-efficacy on the relationship between predictor variables and the criterion variable. The decision to use hierarchical regression or hierarchical variable entry as it is otherwise referred to conforms with the position of Hayes, (2013). Thus, hierarchical regression result was used to test whether entrepreneurial self-efficacy moderates the relationship between microcredit, microsavings, entrepreneurial skills, and a combination of the indicators at once; and poverty alleviation in Northwest Nigeria. Block entry of variables into the regression equation and three steps hierarchical variable entry analysis was conducted with the aim of establishing the proportion of the variance in the criterion variable that is accounted for by other variables when those variables were regressed in specific order (Pallant ,2011; Cohen, & Cohen, 1983; Fairchild, & McQuillin, (2010)

3.9 Operationalization and Measurement of Variables

In this section of the contextual definition and measurement of the research constructs was presented. Variables under study are operationalized and measured as follows:

3.9.1 Microcredit

Microcredit stands for small amount of loan given to the poor who are neglected by conventional commercial banks on account of lack of collateral and credit history and therefore, viewed as too risky for resources to be lent to them (Westover, 2008). The scale developed by Kashif et al. (2011) was adopted in this study. Microcredit was measured using two dimensions: business start-up and expansion; and income generation. The questions used 5-point Likert scale: strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. Six (6) items based on the above-mentioned scale were used to measure microcredit. The reason for choosing business start-up and expansion as indicators of this variable is that microcredit is ideally meant to break the credit constraint. Thus, income-generating ventures can be undertaken (Gupta & Manjunatha, 2013) and when properly utilized will result in savings and positive change in beneficiaries' life style resulting in the alleviation of poverty.

3.9.2 Microsavings

Saving stands for amount of money kept by people with financial institutions. Micro savings refer to small fraction of the income of the poor that is safely kept by

financial institutions mostly MFBs (Ashta, 2014). From microfinance point of view, savings mean money kept with a microfinance institution in this case MFBs, mostly by poor, with the aim of meeting family needs and build up capital for initiating or expanding an income generating venture (Ojo, 2009). Microsavings may either be voluntary at individual level or compulsory group savings (Ojo, 2009). Regardless of the type, three points should be considered in defining microsavings: the savers, the amount saved and the institution that collects the savings. Thus, microsavings stand for small amount of money kept by the poor and low-income earners with specialized institutions (Hulme et al. 2009). The dimensions of compulsory and voluntary savings were used to measure the savings construct. Each of these indicators has two items. These items are as shown in the questionnaire section 3.

3.9.3 Entrepreneurial Skills (ESs):

ES refers to business capability and ability to establish and efficiently manage an income generating venture in a way that objectives are attained. This is made possible with vision, bootstrapping and social competence (Morales & Marquina, 2013). Knowledge or educational background, expertise and prior experience are all strongly connected to ESs. Afolabi and Macheke (2012) viewed that an entrepreneur who lacks skills in managing financial and human resources and marketing abilities is likely to fail in his business. Improvement in any of these skills will enhance business performance. ES is a construct operationalized to measure micro entrepreneurs‘ competence as it relates to running their business affairs. It is measured by adopting two dimensions developed by Raven and Le (2015). These

indicators are business skills and financial skills. Business skills has four items such as basic marketing and selling strategies; basic inventory management; how to manage a business budget; and how to grow a business with improved sales and customer service practices. Financial skills dimension has three items which centered on how to manage household budget; how to use a loan wisely; and basic accounting and savings strategies. These indicators measured with above items were reported to be reliable with Cronbach's alpha of 0.901 and 0.898 respectively.

3.9.4 Poverty Alleviation

Poverty is contextually defined as a state in which an individual or group of persons has too little income as a result of which he or she cannot afford the basic needs and is therefore deprived of a meaningful life due to absence of economic opportunity, healthcare and education (Idolor & Eriki, 2012). This study adopts the scale developed by Zahid, Iqbal and Mushtaq (2015). The measure of poverty is made up of two indicators: fulfillment of basic needs (BN), and living standard (LS). Five items which center on health, education, accommodation, food intake and seasonal clothes was used to measure the dimension of fulfillment of basic needs. Living standard being the second indicator has five items as well. These include transportation resources, power resources such as gas and electricity, electric appliances like refrigerator and television set, sanitary system like toilet facilities as well as household assets like jewelry and livestock. These dimensions (fulfillment of basic needs and living standard) measured with the stated items were reported to be reliable with a Cronbach's Alpha of 0.827 and 0.788 respectively.

3.9.5 Entrepreneurial Self-efficacy (ESE)

ESE refers to one‘s confidence (belief) in one‘s ability to successfully establish and manage a business undertaking. It is a construct that measure the entrepreneur‘s or nascent entrepreneur‘s perceived belief of his entrepreneurial capacity (McGee et al. 2009). McGee et al. reported that ESE comprises of both personality and environmental factors and therefore, is a vital predictor of not only entrepreneurial intention but real entrepreneurial activity. The construct of ESE was measured using four dimensions developed and adopted from McGee et al. (2009). These dimensions are: searching, planning, marshaling, and implementing.

The first indicator (searching) signifies level of belief and confidence of an entrepreneur in his ability to conceive an idea about entrepreneurial venture by recognizing and seizing distinct opening available to his advantage (McGee et al. 2009). To successfully search the entrepreneur needs to be creative and innovative (Morales & Marquina, 2013). Three items based on entrepreneur‘s confidence in his ability were used to measure: ability to come up with a new idea for a product or service; ability to identify the need for a new product or service; and design a product or service that will satisfy customers‘ demand.

Planning is the second dimension where the identified idea is translated into realizable plan (McGee et al. 2009). Three items aimed at measuring confidence and belief of the micro entrepreneur in his ability to: estimate customers‘ demand for his product or service; determine a competitive price for the product or service; and

estimate the amount of start-up funds and working capital necessary to start the business. The third dimension (marshaling) entails the confidence and belief of the entrepreneur in his ability to harness resources to convert the paper work (plan) into reality by putting the business into existence (McGee et al. 2009). Marshaling is similar to boot-strapping of Morales and Marquina (2013). Two items such as looking for a building or equipment for the business; and developing a product or service were used to measure the dimension.

The fourth indicator is implementing which relates to the entrepreneurs confidence and belief in his ability to use all his skills to ensure not only survival but also the growth of the venture (McGee et al. 2009). This dimension was measured using two items which test entrepreneur's confidence in his ability to manage business finances such as organize and maintain the financial records of the business; and manage the financial assets of the business. The reliability of these dimensions for measuring ESE as shown by Cronbach's Alpha result is 0.84, 0.84, 0.80 and 0.91 for searching, planning, marshaling and implementing respectively.

Table 3.16
Summary Constructs Measurement Adopted in the Study

Construct	Dimensions	Sources	No. of Items	Brief definition
Microcredit	Business start-up and expansion	Kashif et al. (2011) Abiola (2011); Enisan and Oluwafemi (2012) Noruwa and Emeka, (2012); Imai, Arun and Annim (2010); Boateng, Boateng and Bompoe (2015).	3	The amount borrowed and what it is used for.
	Income generation	Kashif et al. (2011); Enisan and Oluwafemi, (2012); Haque and Yamao (2008); Boateng, Boateng and Bompoe (2015).	3	Return realizable from invested borrowed funds
Microsavings	Mandatory Savings	Kashif et al. (2011); Haque and Yamao (2008)	2	A fraction of income generated that is used for loan repayment.
	Voluntary Savings	Ojo (2009); Kashif et al. (2011)	3	A fraction of income generated that is used for personal and or business purposes.
Entrepreneurial skills	Business skills	Raven and Le (2015); Morales and Marquina (2013); Afolabi and Macheke (2012); Boateng, Boateng and Bompoe (2015).	4	These are borrowers' capacity to efficiently manage and market their products.
	Financial skills	Raven and Le (2015); Morales and Marquina (2013); Afolabi and Macheke (2012); Boateng, Boateng and Bompoe (2015).	3	These are borrowers' capacity to efficiently manage venture's finances.
Poverty Alleviation	Fulfillment of basic needs	Zahid, Iqbal and Mushtaq (2015); Idolor and Eriki (2012); Sumner (2007); Enisan and Oluwafemi (2012) Navajas et al. (1998), Haque and Yamao (2008); Dakyes and Mundi (2013)	5	Satisfying necessities of life like healthcare, food, shelter, clothing, education, employment opportunities and income generation.

Table 3.16 Continue

Construct	Dimensions	Sources	No. of Items	Brief definition
	Living Standard	Zahid, Iqbal and Mushtaq (2015); Najas et al. (1998); Nkpoyen and Eteng (2012); Onoyere (2014)	5	Condition of living that may be low or high depicted by the type of accommodation and household assets among others
Entrepreneurial self-efficacy (ESE)	Searching	McGee et al. (2009); Kickul et al. (2008); Babalola (2009); Andreea et al. (2014)	3	MFI's beneficiaries' confidence in their ability to generate or identify new business opportunities
	Planning	McGee et al. (2009); Elen (2010); Dean and Khan (2013)	3	Beliefs of MFI's client in his ability to convert business idea into realizable plan
	Marshaling	McGee et al. (2009); Morales and Marquina (2013)	2	Beliefs of MFI's client that they can put resources together to establish an entrepreneurial venture
	Implementing	McGee et al. (2009); Elen (2010)	2	Beliefs of MFI's client that they can manage the finances of the entrepreneurial venture to attain its objectives

Source: Author's Literature Review (2016)

Table 3.17
Summary Questionnaire

Sec.	Variable	Dimension	No. of Items	Questions (Range)	Total Items
1	Demography: Age, Sex.		11	QI – QXI	11
2	IV: Microcredit	2: Business start-up and expansion; Income generation	6	Q1 – Q6	6
3	IV: Microsavings	2: Mandatory savings and Voluntary savings	5	Q7 – Q11	5
4	IV: Business Skills	2: Business skills; and Financial skills	7	Q12 – Q18	7
5	DV: Poverty Allev.	2: Fulfilment of basic needs; and Living standard	10	Q19 – Q29	10
6	MV: Entrepr. SE	4: Searching; Planning, Marshalling and Implementing	10	Q30 – Q40	10

Source: Author's Literature Review (2016)

CHAPTER FOUR
RESULTS DISCUSSION

4.0 Introduction

With the use of tables, figures and graphs the analysis, results and discussion of the data collected are presented in this chapter. The chapter begins with an overview of the data collected; survey instrument distribution and retrieval rate; and non-response bias. It also gives an account of data cleaning and screening under the headings of unengaged responses; missing data and outlaying cases. Normality test in addition to descriptive statistics are also undertaken. Further, the chapter highlights the construct reliability and validity; correlation analysis; multiple and hierarchical regression for the direct relationship as well as test of the moderating effects.

4.1 Overview of the Collected Data

The researcher thoroughly discussed the research instrument with four enumerators who understood the content of the questionnaire. Hence, their service was utilized as research assistants who helped in the administration of the questionnaire. Most of the questionnaires for the treatment group were administered within the banks premises; the control group subjects are not customers and as such could not be found within the banks premises. In order to obtain the minimum sample size of 380, more questionnaires (600) were distributed. This follows the recommendation

of (Sekaran & Bougie, 2016) that questionnaire to be distributed should be larger than the minimum sample in order to get the expected sample size.

4.1.1 Survey Response Rate

A total of 600 copies of questionnaires were administered out of which 423 were duly retrieved; giving a return rate of 71%. This rate, even though slightly below the expected response rate (75%) was achieved due to subjects' on the spot completion and collection of most of the questionnaires at the banks' premises. Thus, it was convenient to fill in the questionnaire while a customer awaits his turn to be attended to by the banks' staff. Additionally, during data cleaning and screening a total of nine copies of the questionnaire were considered unsuitable for the analysis and therefore discarded. Consequently, 414 copies (69%) of the questionnaires were used for the analysis. Out of the total usable questionnaires, 277 (67%) represent the experimental group while the remaining 137 (33%) represent the control group.

4.1.2 Non-Response Bias

None-response bias attempts to divulge the effect of late responses relative to early ones on survey estimates (Creswell, 2013). This non-response bias arises where a number of respondents returned the instruments late or at the end of the response period, after researcher's constant reminder(s), which makes them nearly non-respondents. Thus, responses of late respondents may substantially differ from the earlier ones. It therefore, becomes imperative that a researcher checks to ensure whether such differences exist or not. This study used the surrogate' method to

examine non-response bias. The surrogate method compares responses on the basis of the date they were received; and therefore, presumes that non-early (late) respondents are reasonable surrogates of non-respondents. Late response here refers to instruments that were returned to the researcher after the response period of one week. Early responses on the other hand are those questionnaires obtained either on the spot or within one week. Consequently, responses of early and late respondents were compared by looking at their mean and standard deviation.

Table 4.1
Group Descriptive Statistics for Early and Late Respondents

Construct	Response Bias	N	Mean	Std Deviation	Std. Error Mean
Microcredit	Early Response	331	2.97	.987	.054
	Late Response	83	2.84	1.065	.117
Microsavings	Early Response	331	3.18	1.024	.056
	Late Response	83	3.19	.969	.106
Business Skills	Early Response	331	3.21	.957	.053
	Late Response	83	3.12	.929	.102
Microfinance	Early Response	331	3.11	.980	.054
	Late Response	83	2.99	1.006	.110
Ent. Self-effic.	Early Response	331	3.32	.870	.048
	Late Response	83	3.40	.855	.094

Source: Descriptive Statistics

Group Statistics (table 4.1 above) shows that the mean and standard deviation for early and late responses do not vary significantly thereby proving the absence of non-response bias between the early and late respondents.

4.2 Data Cleaning and Screening

For an effective multivariate study, it is of paramount significance that the data is thoroughly screened. This is because the meaning and quality of the research findings can greatly be attributed to the quality of the data used in the study. To this end therefore, this section of the chapter attempts to thoroughly check the collected data with a view to ensuring that all possible errors in the coding process are identified and taken care of. Employing SPSS software and excel package, responses for all items were examined for lowest and highest values. Results as depicted by frequency tests revealed that none of the values falls above the specified range of 1 to 5; thereby confirming the absence of coding error. Then, the researcher subjected the questionnaire to further investigations for unengaged response(s), detection and treatment of missing data and outlaying cases in addition to test of normality as follows:

4.2.1 Unengaged Response

The data cleaning process began with a treatment of unengaged responses. Standard deviation was calculated using the function tools available in excel. The researcher recorded five cases of such responses. Thus, in line with the position of Gaskin, (2012) respondents with ID number 76, 171, 184, 191 and 280 were discarded as they gave same response for all the items of the instrument resulting in standard deviation of 0; which indicates respondents‘ bias. Additionally, Gaskin‘s unengaged response position conforms to that of Little and Rubin (2002).

4.2.2 Missing Data

Considering the drawbacks and consequences of missing information on data analysis, the researcher exercised caution while at the field. This was aimed at reducing missing data to its lowest level possible. To achieve this, the researcher together with enumerators perused through the returned questionnaires to ensure that all the items were appropriately attended to. Where one or more questions were overlooked by a respondent his or her attention was called for appropriate action. After entering the data into the SPSS software, the descriptive statistics revealed that there was missing data. Respondents with ID number 93, 167, 282 and 330 were deleted as a result of having most of values missing. These respondents were deemed unsuitable for the analysis based on the suggestion by Hair et al. (2010) that any case with more than 50% missing data should be deleted in as much as the researcher has adequate sample. The position of Hair et al. differs from that of Sekaran (2016), who viewed that it might be a good idea to discard any questionnaire in which 25% of the responses are left unanswered. Equally, another eleven cases had insignificant missing values of one each which were replaced by taking the means of nearby points using SPSS. The table below gives a summary of missing data and its magnitude as it relates to the data collected.

Table 4.2
Missing Data

S/N	Description		Percentage
1	Total Questionnaires Returned	423	-
2	Total number of cases with 1 missing value	11	-
3	Unengaged responses and total number of cases with more than 50% missing values	09	02
4	Valid Response used in the analysis	414	98

Source: Author's Field Survey

4.2.3 Dealing with Outliers

According to Hair et al. (2010) an outlier refers to an observation that differs from the rest of the data because it carries unusually low or high values for one or more variables. The box and whisker plots are vital tools that help in spotting any value that lies outside the normal range of the data; that is outlier (Zikmund et al. 2010). The presence of outlier(s) can have a significant negative effect on study results; they can distort statistical analysis. Hence, assessment and treatment of outliers is a vital step of data screening. Consequently, both univariate and multivariate outliers were tested. Univariate outliers were checked using SPSS by detecting cases with large z-score values. With this in mind, cases with standardized z-score values of more than 3.29 are deemed to be univariate outliers (Pallant, 2011). The highest value of z-scores obtained is 2.04 which indicates absence of any univariate outlier. Again, multivariate outliers were equally assessed using Mahalanobis Distance (D^2). This was achieved by running Mahalanobis in the SPSS and then relating the maximum values to that of critical Chi-square value. A higher Mahalanobis maximum distance indicates the presence of multivariate outlaying case(s) that should be deleted (Pallant, 2011). Given that this study has four constructs

representing the degree of freedom in the X^2 table with P>0.001; the chi-square value is 18.47 whereas the Mahalanobis maximum distance is 18.05. This means there is no multivariate outlier as well.

4.2.4 Normality Test

To achieve a valid inference especially in a multivariate analysis calls for screening for data normality. Normality here is concerned with a construct's nature of data distribution and its association with normal distribution (Hair et al. 2010). Consequently, both univariate and multivariate normality were tested. The result of the test is depicted by the calculated z-scores values for each construct. In this regard, the construct of microcredit has the highest z-score of 2.05 indicating a sign of non-normality. All the other constructs have z-scores that fall within the range of 1.79 to 1.94. Furthermore, the Skewness and Kurtosis of all the items were within the acceptable range of < 2 and < 7 respectively. More specifically, Skewness and Kurtosis values, are less than 1 (refer to appendix C). Additionally, the distribution for all the variables as observed from histograms (see, appendix D1– D5) indicates that scores appear to be reasonably normally distributed. Again, the normal probability plots lend credence to the normality of the data. All these attest to the study's normality which in turn confirms the attainment of the assumptions of homoscedasticity, thereby ruling out heteroscedasticity.

4.3 Descriptive Statistics

This portion of the chapter deals with the profiles, and descriptive analysis of the subjects. Descriptive statistics were employed to observe the data responses from the respondents with a view to discover the relationship between the study variables. The demography of the subjects is given below:

4.3.1 Profile of the Respondents

The descriptive analysis concerning the gender variable for all the groups shows that 69% were male and 31% were female. The lower ratio of female relative to their male counterpart is consistent with the representation of the population where it is only recently that more women are entering outdoor economic activities. Segregating the respondents by age factor indicates that those that fall within the age bracket of 36 - 45 were 38% and therefore are more than any other category. Second to this group is the age range of 26 - 35 which constituted 34%; followed by 18 - 25 age class that has 15%; while the fourth and fifth age groups of 46 - 55 and 56 and above have 11% and 2% respectively. This age classification vividly shows that majority of the respondents fall within the productive age of the population.

The descriptive analysis reveals that 260 respondents were married; making 63% of the total study sample while 24% represents those that are single; 8% were divorced. Equally, 3% as well as 2% stand for widows and those who were separated. Family size affects individuals‘ level of poverty. Accordingly, the need exists to look at both borrowers and non-borrowers number of dependents. Respondents‘

demographic analysis shows that 67% have varying number of children with only 33% respondents who have no children at all. On the whole, 31% of the respondents have either one or two children while 26% and 10% have between three to six and six and above children respectively.

For the type of business of the respondents, the demographic descriptive analysis indicates that the respondents are either engaged in agricultural practices, petty trading or providing services. Those in agricultural undertakings constitute 43% followed by traders with 39% and service providers 18%. These micro ventures produced an average weekly profit of less than three thousand Naira (1 USD is equivalent to N306 in 2017) for 35% of the respondents; three to five thousand Naira for 24%; six to eight thousand Naira for 24%; nine to ten thousand Naira for 13%; and twelve thousand Naira and above for 4% of the respondents. Thus, it becomes very clear from the foregoing, that these respondents are the real target of this study: economically active people who are bound by a common interest of enhancing their life and did or did not obtain credit for establishing or expanding an existing income generating ventures. Consequently, on weekly average, 38% of the respondents could only save less than one thousand Naira; 25% between one to two thousand Naira; 22% between three to four thousand Naira; while 11% and 4% of the respondents saved between five to six thousand Naira as well as seven thousand Naira respectively. Additionally, with regards to business location of the respondents, urban area has the highest total with 39% followed by rural area with 35% and lastly semi-urban area that has 26%. Furthermore, most of the

microbusinesses have been operating for a period that ranges between three to five years (44%); followed by those with six or more years in existence (35%) and lastly those with three years in operation (21%).

In the same way, the survey revealed that the three major ethnic groups in the country were represented as the study area (Northwest) and specifically Kano State been not only the most populous state but also center of commerce for the country attracts people from various ethnic and tribal affiliations who avail themselves to the opportunities therein. The descriptive analysis indicates that a large percentage of the subjects come from the dominant ethnic group (Hausa/Fulani) with 66%. Second to this group are the Igbo traders from the Eastern region that take 18%, followed by the Yoruba from the Western region with 13% and other minority ethnic groups with 4%.

With regards to education level, 41% of the respondent had only primary education; secondary level with 39%; tertiary level with 11% while others had 9%. Similarly, almost an equal number of the respondents (37% and 36%) had household assets in form of transportation such as bicycle or motor cycle and domestic appliances like radio, television and refrigerator. Also, 27% of the respondents own domestic assets like farm land, animals and jewelry.

Summarily, it could be deduced from the demographic statistical analysis above, that the data for this study was supplied by the respondents with different ethnic,

educational and regional backgrounds but commonly bound by their desire and effort of becoming economically active and hence, enhance their wellbeing. It follows therefore that; respondents‘ backgrounds variance can help in result generalization. Table 4.3 gives a summary of the respondents‘ features:

Table 4.3
Summary of Total Respondents Demography

S/N	Items	Frequency	Percentage
1	**Gender**		
	Male	287	69.3
	Female	127	30.7
2	**Age**		
	18-25 years	63	15.2
	26-35 years	140	33.8
	36-45 years	157	37.9
	46-55 years	47	11.4
	56 years and above	07	1.7
3	**Marital Status**		
	Single	100	24.2
	Married	260	62.8
	Divorced	35	8.5
	Widow	12	2.9
	Separated	07	1.7
4	**No of Children**		
	None	135	32.6
	1 – 2	130	31.4
	3 – 6	106	25.6
	6 and above	42	10.1
5	**Type of Business**		
	Agriculture	178	43.0
	Trading	161	38.9
	Services	74	17.9
6	**Average Profit per Week**		
	Less than N3000	147	35.5
	N3000 –N5000	98	23.7
	N6000 –N8000	99	23.9
	N9000 –N11000	52	12.6
	N12000 and above	18	4.3

Table 4.3 Continue

S/N	Items	Frequency	Percentage
7	**Average Savings per Week**		
	Less than N1000	158	38.2
	N1000 – N2000	103	24.9
	N3000 – N4000	91	22.0
	N5000 – N6000	46	11.1
	N7000 and above	16	3.9
8	**Location**		
	Urban	161	38.9
	Semi-urban	107	25.8
	Rural	145	35.0
9	**Years in Business**		
	3 years	88	21.3
	3 – 5 years	183	44.2
	6 years and above	143	34.5
10	**Ethnicity**		
	Fulani/Hausa	273	65.9
	Yoruba	52	12.6
	Igbo	73	17.6
	Others	16	3.9
11	**Educational Level**		
	Primary	168	40.6
	Secondary	163	39.4
	Tertiary	44	10.6
	Others	39	9.4
12	**Household Assets**		
	Transportation	152	36.7
	Domestic Appliances	151	36.5
	Others	111	26.8

Source: Descriptive Statistics

Table 4.4 gives a summary of the group-based demography of the respondents:

Table 4.4
Summary of Group-based Respondents Demography

S/N	Variable	Groups			
		Experimental		Control	
		Frequency	Percentage	Frequency	Percentage
1	**Gender:**				
	Male	197	71.1	90	65.7
	Female	80	28.9	47	34.3
		277	**100**	**137**	**100**
2	**Age:**				
	18 – 25	30	10.8	33	24.1
	26 – 35	94	33.9	46	33.6
	36 – 45	106	38.3	51	37.2
	46 – 55	41	14.8	06	4.4
	56 and above	06	2.2	01	0.7
		277	**100**	**137**	**100**
3	**Marital Status:**				
	Single	64	23.1	36	26.3
	Married	107	60.3	93	67.9
	Divorced	30	10.8	05	3.6
	Widows	11	4.0	01	1.5
	Separated	05	1.8	02	0.7
		277	**100**	**137**	**100**
4	**No of Children:**				
	None	85	30.7	50	36.5
	1 – 2	91	32.9	39	28.5
	3 – 6	62	22.4	44	32.1
	6 and above	39	14.1	03	2.2
		277	**100**	**137**	**100**
5	**Type of Business:**				
	Agriculture	126	45.5	52	38.0
	Trading	108	39.0	53	38.7
	Services	42	15.5	32	23.4
		277	**100**	**137**	**100**

Table 4.4 Continue

S/N	Variable	Groups			
		Experimental		Control	
		Frequency	Percentage	Frequency	Percentage
6	**Average Profit/Week:**				
	Less than N3000	47	17.0	100	73.0
	N3000 – N5000	68	24.5	30	21.9
	N6000 – N8000	92	33.2	07	05.1
		277	**100**	**137**	**100**
7	**Ethnicity:**				
	Fulani/Hausa	192	69.3	81	59.1
	Yoruba	31	11.2	21	15.3
	Igbo	43	15.5	30	21.9
	Others	11	04.0	05	03.6
		277	**100**	**137**	**100**
8	**Educational Level:**				
	Primary	85	30.7	83	60.6
	Secondary	114	41.2	49	35.8
	Tertiary	43	15.5	01	0.7
	Others	35	12.6	04	2.9
		277	**100**	**137**	**100**
9	**Years in Business:**				
	3 Years	52	18.8	36	26.3
	3 – 5 Years	132	47.7	51	37.2
	6 and above	93	33.6	50	36.5
		277	**100**	**137**	**100**
10	**Av. Savings/Week:**				
	Less than N1000	57	20.6	101	73.7
	N1000 – N2000	75	27.1	28	20.4
	N3000 – N4000	84	30.3	07	05.1
	N5000 – N6000	45	16.2	01	0.7
	N7000 and above	16	05.8	-	-
		277	**100**	**137**	**100**

Table 4.4 Continue

S/N	Variable	Groups			
		Experimental		Control	
		Frequency	Percentage	Frequency	Percentage
11	**Household Assets:**				
	Transportation	98	35.4	54	39.4
	Appliances	94	33.9	57	41.6
	Others	85	30.7	26	19.0
		277	**100**	**137**	**100**
12	**Business Location:**				
	Urban	84	30.3	77	56.2
	Semi-urban	99	35.7	08	05.8
	Rural	94	34.0	52	38.0
		277	**100**	**137**	**100**

Source: Descriptive Statistics

4.4 Multicollinearity

Multicollinearity indicates the level of interrelationship among variables. Collinearity exists where two variables are perfectly correlated. Where this form of relationship occurs among more than two independent variables Multicollinearity is created. That is to say the correlation among the independent (exogenous) variables is as high as 0.9 and above (Tabachnick & Fidell, 2012). It is therefore, the degree to which an independent variable is explained by a set of other independent variables. Thus, Multicollinearity shows how strongly interrelated a model‘s independent variables are (Zikmund et al. 2010). Just like the outliers, the researcher needs to identify and treat any Multicollinearity problem prior to conducting the data analysis (Hair et al. 2010); as it can make parameter estimates to take on unreasonable and unreliable values (Zikmund et al. 2010). Correlation coefficient

may be used to diagnose Multicollinearity problem. Here, high coefficient of correlation matrix of the independent variables of say 0.9 and above shows a substantial collinearity (Hair et al. 2010).

Similarly, Variance Inflation Factor (VIF) and tolerance level were used where VIFs of 5.0 and above indicates problems of Multicollinearity (Zikmund et al. 2010)[30]. VIF gauges multicollinearity by inversing the tolerance value, which measures the variability of an independent variable that remains unexplained by the other independent variables. Also, the yardstick for VIF is that it should not exceed 10 while the tolerance level should not be less than 0.10. The researcher used regression results from the SPSS to check for Multicollinearity. Multicollinearity result (table 4.5) shows that the VIF ranges between 1.117 and 1.266 indicating acceptability because the value is less than 10 (< 10) while the tolerance level ranges between .790 and .896 which is equally acceptable as it is greater than 0.10 (Tabachnich & Fidell, 2007). From the foregoing, it becomes very clear that the independent variables are free from Multicollinearity problem.

Table 4.5
Multicollinearity Test (Tolerance & VIF Values)

S/N	Independent Variables	Collinearity Statistics	
		VIF	**Tolerance**
1	**Microcredit**	1.266	.790
2	**Microsavings**	1.231	.812
3	**Business Skills**	1.117	.896

Source: Regression Analysis

[30] The regression R-square that ignores the selected independent variable subtracted from 1 gives the tolerance value whereas the VIF is obtained by dividing 1 with the tolerance value.

4.5 Test of Hypotheses

Linear association or relationship between one dependent and an independent variable can be measured using a simple regression analysis technique. Multiple regression technique on the other hand, predicts or explains one continuous dependent variable with multiple independent variables (Zikmund, 2010). It helps in explaining how much of the variance in the dependent variable is explained by a set of independent variables (Sekaran, 2016). In this work, multiple as well as hierarchical regressions were employed to test the study hypotheses. Multiple regression technique comprises of array of analytical techniques that can be employed to explore the relationship between a single continuous dependent variable and several predictors or independent variables. It measures not only the predictive power of independent variables on the dependent variable(s) but also indicates the strength and the direction of the relationship: whether there is a significant negative relationship or a significant positive relationship between the variables in question (Pallant, 2011).

Next, the hierarchical regression (otherwise referred to as sequential regression) technique was used in this study; the motive being to dig out whether entrepreneurial self-efficacy would add to the variance explained in the poverty alleviation over and above that explained by the predictor variables (microcredit, microsavings and entrepreneurial skills). That is to say, with the presence of a moderator in a study, hierarchical regression can be employed to test its effect on the relationship between predictor and criterion variables.

It is worthy of note here that, the preceding sections of this chapter explained the rigorous process of data cleaning and screening including but not limited to normality test as well as treatment of missing values and outliers as prerequisites assumptions that need to be attained before proceeding with multivariate analysis for hypotheses testing.

First, the sample size assumption which focuses on result generalizability was addressed. As pointed out in the preceding chapter, the sample size for this study is adequate. Again, Pallant (2011) reported that a researcher with five independent variables and a normally distributed data needs a minimum sample of 90 observations. Considering the number of independent variables for this study, the sample size assumption for running a multivariate analysis has been met. Next, is the issue of normality assumptions. In an attempt to satisfy this requirement, z-scores, Skewness and Kurtosis as well as probability plots of all the constructs were examined. The construct of microcredit has the highest z-score of 2.05 indicating a sign of non-normality. All the other constructs have z-scores that fall within the range of 1.79 to 1.94. Furthermore, the Skewness and Kurtosis of all the items were within the acceptable range of < 2 and < 7 respectively. More specifically, Skewness and Kurtosis values, are less than 1 (refer to appendix C). Hence, the distribution for all the variables as observed from histograms (see appendix D1–D5) indicates that scores appear to be reasonably normally distributed. Again, the normal probability plots lend credence to the normality of the data. All these attest to the

study's normality which in turn confirms the attainment of the assumptions of homoscedasticity, thereby ruling out heteroscedasticity.[31]

Again, the variance inflation factor (VIF) in addition to tolerance values, were used to identify multicollinearity.[32] According to Hair et al (2010) the bench mark for these parameters is any value that is greater than 0.10 (>0.10) for tolerance and less than 10 (<10) for the VIF. The data analysis revealed that both the tolerance and the VIF are all within the acceptable level. This, therefore, indicates that the study independent variables are free from the problem of multicollinearity (see table 4.5). Last, outlying cases were checked by comparing Mahalanobis distances with critical chi-square value, but no case was found to have Mahalanobis distance value exceeding the critical value; thereby ruling out any outlier. Summarily, preceding sections of this chapter proved the attainment of the conditions necessary for the performance of regression analysis.

4.5.1 Multiple Regression Analysis

The use of multiple regression (also known as standard multiple regression) technique in this study is aimed at explaining the predictive power of the predictor variables (microcredit, microsavings and entrepreneurial skills) towards the criterion variable (poverty alleviation). This is in conformity with the position of Pallant,

[31] Heteroscedasticity exists because of unequal variance conditions whereby the dispersion of the dependent variable is not equal at each value of predictor variable (Hair et al. 2010). That is to say, the variance of the error term is not constant. In contrast, homoscedasticity as the prefix ‗homo' indicates assumes that the variances of different populations are approximately equal (Zikmund, 2010).

[32] Multicollinearity indicates a high level of correlation ($r \geq 0.9$). In contrast, singularity exists when an independent variable is a combination of other independent variables.

(2011) who opined that this type of regression should be used when a researcher intends to find out how much variance in a criterion variable researcher's set of predictor variables were able to explain as a group. In regression analysis R Square (R^2) indicates the model fit; and is used to obtain the variance explained by the predictor(s) on the dependent variable (Pallant, 2011). In this study R^2 was reported throughout the analysis because of the sample size that is above 500 which makes it large (Pallant, 2011). A sample is said to be small if it falls below 30 (Sekaran & Bougie, (2016).

As bench mark, R^2 values of 0.02, 0.13 and 0.26 are interpreted as weak contribution of the model, moderate contribution and substantial contribution or good model fit (Cohen, 1988; Fairchild & McQuillin, 2010). Thus, all the predictor variables (independent variables) are simultaneously entered into the regression equation so as to predict the criterion (dependent) variable. In fact, this is what makes standard multiple regression to be called ‗simultaneous model' (Tabachnich 1981).

4.5.1.1 Test of Hypotheses 1, 2 and 3

These hypotheses were used to answer research questions 1, 2 and 3.

The three independent variables that relate with H_1, H_2 and H_3 were entered into the regression equation at the same time. The output is then used to test these hypotheses:

H_1: Microcredit is positively associated with poverty alleviation in Northwest Nigeria.

H_2: Microsavings is positively associated with poverty alleviation in Northwest Nigeria.

H_3: Entrepreneurial Skills is positively associated with poverty alleviation in Northwest Nigeria.

The result of the multiple regression analysis for the three predictor variables put together produced a model that explained a total variance 12.7% of the total variance in the dependent variable which indicates a moderate model fit (refer to table 4.6 and Appendix I1). Each of the predictor variables has a significant positive impact (contribution) on the criterion variable (see Appendix I1).

Table 4.6
Direct Relationship extract from Model Summary

Model	R	R^2	Adjusted R^2	Std Error of the Estimate	R^2 Change
Treatment	356[a]	.127	.117	.768	.127

Table 4.7 gives the significance of the relationship between the independent variable and the dependent variable.

Table 4.7
Multiple regression result: microcredit, microsaving and entrepreneurial skills; and poverty alleviation

Variables	Standardized Coefficients Beta	T Value	P Value	Hypothesis
Microcredit (MC)	0.171	2.986	0.003	H_1
Microsavings (MS)	0.208	3.553	0.000	H_2
Entrepreneurial Skills (ES)	0.115	2.672	0.008	H_3
R Square		0.127		
Adjusted R Square		0.117		
F Value		13.181		
F Value Sig		0.000		
Durbin-Watson		1.902		

P<0.05

Table 4.7 shows that Significant F value stands at 0.000 implying that the model is significant at p<0.005. Autocorrelation is ruled out as 1.902 value of Durbin-Watson falls within the acceptable threshold of greater than 1 (>1) and less than 3 (<3) as proposed by Pallant, (2011).[33]

Table 4.7 indicated that the overall model was significant. Microsaving has the largest Beta value (.208) which implies that microsaving makes the strongest single contribution to poverty alleviation when the effect of the other predictors in the model is put under control. Next, is microcredit that has a Beta coefficient of .171 suggesting a unique contribution to the model that is less than that of microsavings but higher than that of entrepreneurial skills that has the lowest Beta value of .115. Statistically however, each of the predictors made significant unique contribution to the model: Sig stands at .003, .000 and .008 for microcredit, microsavings and

[33] Autocorrelation exists where the error terms are not independent from one observation to another observation but hinges on one or more past values of observation.

entrepreneurial skills respectively. This finding is in accord with outcome of studies by Emeka, (2012); Tavanti, (2013); Gupta and Manjunatha (2013); Ghalib, Malki and Imai, (2014); Boateng, Boateng and Bompoe, (2015); and Okechukwu and Chidi, (2015). These values of the Betas mean that we are ninety five percent confident that every one unit increase in microcredit, micro savings and entrepreneurial skills is accompanied by .17, .21 and .11 increase in poverty alleviation respectively. Equally, the R^2 value of 12.7% indicates that as a whole the model accounted for 12.7% poverty reduction in the study area.

The first objective of this study is to examine the influence of microcredit on poverty alleviation in northwest Nigeria. In order to achieve this objective the hypothesis, which predicted a positive association between microcredit and poverty alleviation was tested. The result shows a positive association between the predictor (microcredit) and criterion (poverty alleviation) variables. This finding is not surprising because it is in line with the findings of Khandker and Samad, (2013) who found that welfare benefits derived from microcredit reduce participants' poverty level and lead to economic growth. Moreover, this finding corroborates that of Imai and Anim, (2012) which revealed that microcredit has poverty reducing effect on borrowers in Bangladesh. Results of other empirical studies are also in conformity with this finding (see, for example Anisan & Akinlo, 2012; Kaka & Abidin, 2014; Boateng & Bompoe, 2015).

H_1 proposed a positive relationship between microcredit and poverty alleviation in Northwest Nigeria. The contribution of the variable to the model as depicted in table 4.7 confirmed the prediction of the hypothesis. Thus, the alternate hypothesis 1 with beta value (beta = .171, $p<0.005$) predicting that microcredit is positively associated with poverty alleviation in Northwest Nigeria was supported.

The second objective of this study is to examine role of microsavings on poverty alleviation in Northwest Nigeria. To achieve this objective the second hypothesis which predicted a positive association between the independent variable (microsavings) and the dependent variable (poverty alleviation) was tested. Result shows not only a positive relationship but the highest contribution to the regression model as well; which means microsavings helps in alleviating poverty. This finding agrees with that of Collins et al. (2009) who showed that savings services benefit the poorest of the poor (core or extremely poor) more than credit itself. Similarly, Ojo, (2009) found that savings have positive effect on entrepreneurs' productivity and hence improvement in their welfare. Additionally, as poverty alleviation does not end with improved economic welfare but include creation of barrier from poverty. Tavanti, (2013) found that microsavings shield the poor from falling back into poverty.

H_2 is an alternate hypothesis that predicted a positive relationship between the predictor variable (microsavings) and the criterion variable (poverty alleviation). Regression result given in table 4.7 revealed a unique contribution by microsavings

(Beta = .208, p<0.005) which supports that microsavings is positively associated with poverty alleviation in Northwest Nigeria. The hypothesis (H_2) was therefore, supported.

Another important objective of this research is to examine the effect of entrepreneurial skills on poverty alleviation in Northwest Nigeria. To this end, the third direct hypothesis which predicted that entrepreneurial skill is positively associated with poverty alleviation was tested. The result depicts a positive association between the predictor and criterion variables. The implication of this finding is that absence of entrepreneurial skills has negative consequence on the micro entrepreneurs' business performances and poverty alleviation. In fact, Abiola, (2011) found that most micro business failures are attributed to lack of entrepreneurial skills. Again, this finding on positive effect of entrepreneurial skills on poverty alleviation is consistent with result of (Ernest et al., 2015) who found that entrepreneurial skills have a positive effect on job creation (and hence, poverty reduction) and economic development.

H_3 equally predicted a positive association between entrepreneurs' skills and poverty alleviation. The standard multiple regression result in the above table showed that microsavings as a predictor has a Beta coefficient of .115, p<0.005 which indicates a significant relationship with poverty alleviation. Therefore, the result supported the alternate hypothesis that entrepreneurial skill is associated with poverty alleviation in Northwest Nigeria was supported.

4.5.2 Hierarchical Regression Analysis

Hierarchical regression was employed to test the moderation effect of entrepreneurial self-efficacy on the relationship between predictor variables and the criterion variable. The decision to use hierarchical regression or hierarchical variable entry as it is otherwise referred to conforms with the position of Hayes, (2013). Thus, hierarchical regression result was used to test whether entrepreneurial self-efficacy moderates the relationship between microcredit (H_4), microsavings (H_5), entrepreneurial skills (H_6) and a combination of the indicators at once (H_7); and poverty alleviation in Northwest, Nigeria. Accordingly, ‗blocks' entry of variables into the regression equation by Pallant (2011) which agrees with three steps hierarchical variable entry analysis by Cohen and Cohen (1983) and Fairchild and McQuillin, (2010) was conducted with the aim of establishing the proportion of the variance in the criterion variable that was accounted for by other variables when those variables were regressed in specific order.

Consequently, each predictor variable was regressed first with the criterion variable to assess its direct effect; then the moderator is introduced into the regression (just like a predictor) so as to determine whether it has a significant direct effect on the criterion variable. Lastly, in the third step the interaction term was assessed by combining the predictor(s) as well as the moderator which are then regressed against the criterion variable.[34] The essence here is, to find out whether there was any additional variance explained due to the interaction. To this end, any increase

[34] The interaction term is obtained when a moderator is multiplied with the independent variable.

(regardless of the size) in the value of R square after the interaction signifies moderation effect (Fairchild & McQuillin, 2010; Pallant, 2011; Hayes, 2013). Put differently, a change in R square shows the variance accounted for by the interaction, above and beyond the variance explained in the model prior to regressing the interaction term and in turn, indicates the moderation effect (Fairchild & McQuillin, 2010).

The fourth objective of this study is to examine whether or not entrepreneurial self-efficacy could moderate the relationship between microcredit, microsavings, entrepreneurial skills, on one hand, and poverty alleviation, on the other. To achieve this objective hypothesis 4, 5, 6 and 7 were proposed and tested. Findings confirm that entrepreneurial self-efficacy has significant moderating influence on microcredit (hypothesis 4); entrepreneurial skills (hypothesis 6); microcredit, microsavings, entrepreneurial skills (hypothesis 7), but does not yield moderating influence on microsavings (hypothesis 5). Previous studies documented the moderating influence of entrepreneurial self-efficacy on several aspects of human endeavors. For instance, Jiang, and Park, (2012) found that self-efficacy wielded moderating influence on emotional intelligence, regulation of emotions and entrepreneurial career intentions. Equally, Travis, and Freeman, (2017) found a moderating role of entrepreneurial self-efficacy in the proactive personality- entrepreneurial intentions relationship. However, to the best knowledge of the researcher there is no empirical study that investigate the moderating role of entrepreneurial self-efficacy on the relationship

between this study independent variables (microcredit, microsavings and entrepreneurial skills) and the dependent variable (poverty alleviation).

4.5.2.1 Test of Hypothesis 4

This hypothesis was used to answer research question 4.

Moderating effect of entrepreneurial self-efficacy (ESE) on microcredit

The independent variable, the moderating variable as well as the interaction term were regressed against the dependent variable. The output (table 4 is then used to test this hypothesis:

Table 4.8
Moderating effect: Microcredit – Extract from Model Summary

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Treatment	1	.218[a]	.047	.044	.799
	2	.462[b]	.213	.208	.727
	3	.495[c]	.245	.237	.714

H_4: Entrepreneurial self-efficacy moderates the relationship between microcredit and poverty alleviation in Northwest Nigeria.

Three models were used to test the moderating effect of ESE on this predictor variable (microcredit). The first model indicates direct predictor – criterion variables relationship. In the second model, the moderator was introduced as a predictor as well; while in the third model the interaction term was incorporated into the regression and used in reporting the moderating effect.

Regressing microcredit produced model 1 (see table 4.8) which in total explains a small proportion of the variance (4.7 per cent) in the criterion variable nevertheless, it was significant at p<0.000 as shown in table 4.8. In the second model, entrepreneurial self-efficacy (moderating variable) was introduced with the motive of testing whether it has any significant direct effect on poverty alleviation (criterion variable). This produced an effect that led to an increase in the variance explained from the 4.7 per cent to 21.3 per cent (R square = .213). The value of R square change was 0.166 with sig. F change of 0.000 at p < 0.005 level. ESE in the model has a standardized beta coefficient of 0.417 which indicates a unique contribution at sig. 0.000 (refer to Appendix I2).

Table 4.9
Hierarchical regression result: microcredit, entrepreneurial self-efficacy; and poverty alleviation

Variables	**Standardized Coefficients Beta**	**T Value**	**P Value**	**Hypothesis**
Microcredit (MC)	0.154	2.84	0.005	
Entrepreneurial Self-efficacy (ESE)	0.422	7.843	0	H_4
Interaction variable1 (Model 3)	-0.181	-3.402	0.001	
R Square		0.245		
Adjusted R Square		0.237		
F Value		29.598		
F Value Sig		0		
R square Change		0.032		

P<0.05

Furthermore, in model 3 the independent variable, the moderator; and the interaction term were regressed simultaneously against the criterion variable so that additional variance explained due to the interaction effect (if any), could be obtained. The result is an increase in R^2 value from 0.213 to 0.245; producing R^2 change of 0.032

and sig. 0.001 at $p < 0.005$. Table 4.9 indicates that the interaction term has a standardized beta coefficient of -0.181 which translates into additional 0.18 variance explained as the negative sign (-) is ignored (Pallant, 2011). Again, the model summary table (see table 4.8) shows that as a result of the interaction term, the model's predictive power was enhanced with 3.2% rise in R^2 as well as an overall significant F change at 0.001. The growth in R^2 (3.2%) is appreciable as even 1% increase in its value that is accounted for by interaction term indicates moderation (Fairchild & McQuillin, 2010) so long as the contribution is at significant level. This finding (3.2% rise in R^2) shows that the predictive power of the model is enhanced by the presence of the moderator. In other words, the confidence the borrowers have in their belief that they utilize the amount loaned to them by the MFBs resulted in lowering their poverty status by .18 due an increase in one unit of moderator.

H_4 proposed a moderating effect of entrepreneurial self-efficacy on the relationship between microcredit and poverty alleviation in Northwest Nigeria. The contribution of the interaction term to the model as depicted in table 4.9 confirmed the prediction of the hypothesis. Thus, the alternate hypothesis 4 with beta value (beta = -.181, sig. of 0.001 at $p<0.005$) predicting that entrepreneurial self-efficacy moderates the relationship between microcredit and poverty alleviation in Northwest Nigeria was supported.

4.5.2.2 Test of Hypothesis 5

This hypothesis was used to answer research question 5.

Moderating effect of entrepreneurial self-efficacy (ESE) on microsavings

The independent variable, the moderating variable as well as the interaction term were regressed against the dependent variable. The output (see table 4.10) is then used to test this hypothesis:

> H_5: Entrepreneurial self-efficacy moderates the relationship between microsavings and poverty alleviation in Northwest Nigeria.

Table 4.10
Moderating Effect: Microsavings – Extract from Model Summary

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change
Treatment	1	.269[a]	0.073	0.069	0.788	0.073
	2	.463[b]	0.215	0.209	0.727	0.142
	3	.465[c]	0.216	0.207	0.728	0.001

Result of hierarchical regression for testing the moderation effect of entrepreneurial self-efficacy on microsavings is given in table 4.11

Table 4.11
Hierarchical regression result: microsaving, entrepreneurial self-efficacy; and poverty alleviation

Variables	Standardized Coefficients Beta	T Value	P Value	Hypothesis
Microsavings (MS)	0.141	2.483	0.005	
Entrepreneurial Self-efficacy (ESE)	0.397	7.016	0	H_5
Interaction variable (Model 3)	-0.034	-0.635	0.001	
R Square	0.216			
Adjusted R Square	0.207			
F Value	25.059			
F Value Sig.	0.526			
R square Change	0.001			

P<0.05

Table 4.11 indicates three blocks of variables entered into the regression equation that produced three models as was the case with earlier independent variable. In the first model, the percentage of variance explained by the predictor variable was small (0.073) with sig. F change of 0.000, at p<0.005: R square = 7.3% (refer to table 4.10). With the moderator entered into the equation however, the value of R square rose to 0.215 implying that 21.5% of the variance explained was accounted for by the entrepreneurial self-efficacy. In this stage (model 2) the R square change was 0.142 (14.2%) with a sig. F change of 0.000 which suggests that the overall model was significant. It can also be observed from the table 4.11 that the third model which evaluates the effect of the interaction variable; the R square value was 0.216 with a corresponding R square change value of 0.001 and sig. F change of 0.526 indicating that the overall model was not significant at p < 0.0005. This means that the moderator (entrepreneurial self-efficacy) explains an additional 1% (0.001 X 100) of the variance in the criterion variable. However, this upward change in R square (contribution in variance explained) is not statistically significant, as revealed

by the sig. F change value of 0.526. This means that despite change in the R^2 value, moderator interaction with microsavings does not warrant any increase in poverty alleviation.

H_5 proposed a moderating effect of entrepreneurial self-efficacy on the relationship between microsavings and poverty alleviation in Northwest Nigeria. The contribution of the interaction terms to the model as shown in table 4.11 invalidated the prediction of the hypothesis. Thus, the alternate hypothesis 5 with beta value (beta = -.034, sig. of 0.526 at $p<0.005$) predicting that entrepreneurial self-efficacy moderates the relationship between microsavings and poverty alleviation in Northwest Nigeria, and hence result in .034 fall in poverty was not supported.

Table 4.12
Moderating Effect: Entrepreneurial Skills – extract from model summary

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Treatment	1	.214[a]	.046	.042	.800
	2	.450[b]	.202	.197	.732
	3	.476[c]	.226	.218	.723

4.5.2.3 Test of Hypothesis 6

This hypothesis was used to answer research question 6.

Moderating effect of entrepreneurial self-efficacy on entrepreneurial skills

Table 4.13 presents the result of hierarchical regression in which the predicator variable, the moderating variable and the interaction terms were regressed against the criterion variable in model 3. The model summary table (refer to Table 4.12) shows that in model 2 R square value was 20.2% (sig. F change =.000) as against the model 1 value of 4.6% (sig. F change =.000). This means that by direct relationship

entrepreneurial self-efficacy explained 4.6% of the variance in the criterion variable. However, in the third model where the effect of the interaction term is tested, R square value improved from 20.2% to 22.6% producing R square change of 0.024 (2.4%). That is to say, the interaction terms create an additional variance explained of 2.4% in dependent variable. The 2.4% rise in in R square shows that there is a moderation effect in the relationship that was tested.

Table 4.13
Hierarchical regression result: entrepreneurial skills, entrepreneurial self-efficacy; and poverty alleviation

Variables	**Standardized Coefficients Beta**	**T Value**	**P Value**	**Hypothesis**
Entrepreneurial Skills (ES)	0.131	2.209	0.028	
Entrepreneurial Self-efficacy (ESE)	0.335	6.702	0.000	H_6
Interaction variable1 (Model 3)	-0.125	-2.902	0.004	
R Square		0.226		
Adjusted R Square		0.218		
F Value		26.624		
F Value Sig.		0.000		
R square Change		0.020		

H_6 proposed a moderating effect of entrepreneurial self-efficacy on the relationship between entrepreneurial skills and poverty alleviation in Northwest Nigeria. The contribution of the interaction term to the model as depicted in the above table validated the prediction of the hypothesis. Thus, the alternate hypothesis 6 with beta value (beta = -.163, sig. of 0.004 at $p<0.005$) predicting that entrepreneurial self-efficacy moderates the relationship between entrepreneurial skills and poverty alleviation in Northwest Nigeria was supported.

Table 4.14
Moderating Effect: Microcredit, Microsavings, Entrepreneurial skills – Extract from Model summary

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change
Treatment	1	.356[a]	0.127	0.117	0.768	0.127
	2	.481[b]	0.231	0.22	0.722	0.105
	3	.507[c]	0.257	0.244	0.711	0.026

4.5.2.4 Test of Hypothesis 7

This hypothesis was used to answer research question 7

Moderating effect of entrepreneurial self-efficacy (ESE) on microcredit, microsavings and entrepreneurial skills

With the motive of testing hypothesis 7 (H_7) in mind, all the independent variables, the moderating variable as well as the interaction terms were regressed against the dependent variable. The hypothesis predicts:

> H_7: Entrepreneurial self-efficacy moderates the relationship between microcredit, microsavings and entrepreneurial skills; and poverty alleviation in Northwest Nigeria.

As with other hypotheses, three models were used to test the moderating effect of ESE on these predictor variables (microcredit, microsavings and entrepreneurial skills). The first model indicates direct predictors – criterion variables relationship. In the second model, the moderator was introduced as a predictor as well; while in the third model the interaction terms were incorporated into the regression.

Table 4.15
Hierarchical regression result: microcredit, microsavings, entrepreneurial skills, entrepreneurial self-efficacy; interaction terms and poverty alleviation

Variables	Standardized Coefficients Beta	T Value	P Value	Hypothesis
Microcredit (MC)	0.132	2.442	0.015	
Microsavings (MS)	0.116	2.073	0.039	
Entrepreneurial Skills (ES)	0.076	1.361	0.175	H_7
Entrepreneurial Self-efficacy (ESE)	0.348	5.954	0.000	
Interaction variable1 (Model 3)	-0.163	-3.085	0.002	
R Square		0.257		
Adjusted R Square		0.244		
F Value		18.783		
F Value Sig.		0.002		
R square Change		0.026		

P<0.05

By merging all the predictor variables including the moderator as well as the interaction terms in the regression equation the moderation effect of entrepreneurial self-efficacy on the combined predictor variables is tested. The model summary table (refer to table 4.14) revealed that model 1 has R square value of 12.7% but with the entrepreneurial self-efficacy entered as a predictor the value of R square rose to 23.1% indicating that entrepreneurial self-efficacy explained 10.4% of the variance. Similarly, the presence of the interaction terms produced a beta value of -0.163 which is statistically significant at 0.002 at $p < 0.005$. In this model, the interaction effect resulted in R square change of 0.026 or 2.6% (0.026 X 100). This increase in R square is an indication of the enhancement in the predictive power of the model by 2.6%. In other words, the presence of the moderator makes both predictor variables to have more influence on poverty alleviation thereby reducing poverty of MFBs clients by additional .163 and 2.6% by the model. For every one unit increase in ESE poverty will be reduced by 0.163.

The positive change in R square value as shown in the table means that the influence of microcredit, microsavings and entrepreneurial skills were moderated by entrepreneurial self-efficacy. Accordingly, H_7 proposed a moderating effect of entrepreneurial self-efficacy on the relationship between microcredit, microsavings, entrepreneurial skills; and poverty alleviation in Northwest Nigeria. The contribution of the interaction terms to the model as discussed above validated the prediction of the hypothesis. Consequently, alternate hypothesis 7 was supported.

4.6 Microfinance and Poverty Alleviation: Experimental and Control Groups Compared

It was stated in the preceding chapter that the sample for this study was divided into treatment and control groups. These groups represent MFBs' clients who on one hand have successfully obtained microcredit and those whose applications were rejected respectively. Thus, part of the sample (treatment group) were exposed to a treatment; in this case breaking the credit constraint and the result tested while the other part of the sample (control group) were not exposed to the treatment but are still tested. This design is known as post-test only with experimental and control groups. The essence of the grouping is to examine whether the effect of the predictor variables which was enhanced by the moderation effect on the criterion variable, differs between the two groups. The model that tested the direct relationship between all predictor variables and the criterion variable is used to compare the treatment and control groups.

Table 4.16
Microfinance and Poverty Alleviation: Comparison between Treatment and Control Group

Independent Variables	Groups					
	Treatment			**Control**		
	Beta	T value	P value	Beta	T value	P value
Microcredit (MC)	0.171	2.986	0.003	-	-	-
Microsavings (MS)	0.208	3.553	0	0.162	1.897	0.06
Entrepreneurial Skills (ES)	0.115	2.672	0.008	-0.061	-0.711	0.479
R Square		0.127			0.029	
Adjusted R Square		0.117			0.015	
F Value		13.181			2.018	
F Value Sig		0.000			0.137	

P<0.05

Table 4.16 gives the comparison analysis of the two groups. Starting with the treatment group, it can be observed that all the predictor variables individually made unique contributions that was statistically significant at $p < 0.005$ level of confidence. In this regard, microsavings made the highest distinct contribution (beta = .208, $p < .000$); followed by microcredit (beta = .171, $p < .003$). Entrepreneurial skills recorded the lowest beta value (beta = .115, $p < .008$). The overall model has 13% predictive power on the criterion variable with F value of 13.18 and F value sig. 0.000. This result therefore, points to the fact that microfinance is an effective tool for poverty reduction in the study area. And it lends support to findings of Idolor and Eriki, (2012); Emeka, (2012); Ghalib, Malki and Imai, (2014) as well as Boateng, Boateng and Bompoe, (2015).

Turning our attention to the control group; it is easily discernable from the table that although each independent variable made its own beta contribution (beta values of .087 and -.060 for microsavings and entrepreneurial skills respectively), none of

such contribution was statistically significant as depicted by the p value of 0.060 and 0.479. Additionally, the model has a weak R square value (2.9%) with an adjusted R square value of .015 and F value sig 0.137. Thus, the model is not statistically significant.

These results imply that successful microfinance customers (those who succeed in getting microcredit) are much better off. In other words, microfinance has a positive effect on borrowers' well- being. This is attested by the average weekly profits which shows that majority of borrowers earn income that is higher than the one dollar per day poverty line. In contrast subjects from the second group (control) were not successful in their attempt to benefit from the services of the microfinance. Thus, their poverty could not be reduced: their welfare could have improved assuming they were able to obtain funds for starting or expanding an existing income generating ventures, in addition to other financial services provided by the MFBs.

Summary

This chapter presented results of the analysis of the data collected. The chapter began with an introduction followed by a brief description of the data collected for the study which highlighted the instrument's response rate as well as non-response bias of the respondents. The subsequent sections of the chapter reported the process that were used to clean and screened the data such as unengaged response, missing data in addition to identification and treatment of missing data, outlying cases and multicollinearity. Histograms and the statistics of Skewness and Kurtosis were

employed with the aim of checking the normality of the data. The chapter proceeded to descriptive statistics which in turn, provided the demographic analysis of the respondents. Goodness of measure under which both the principal component analysis (PCA) and confirmatory factor analysis were discussed was also part of the chapter. The chapter revealed that the data achieved the normality with no multicollinearity issue but a few missing cases that were treated accordingly. Detailed description of the reported result is in favour of the scholarly postulations on the positive effect of microfinance on poverty alleviation. This effect is clearly deducible from the variation in the result of the two groups (treatment and control). Again, among the hypotheses tested all but one, were supported. The chapter also revealed that entrepreneurial self-efficacy wielded moderation effect on the hypothesized relationship between the predicting variables (except microsavings) and criterion variables. The next chapter of this study summarizes the study findings; their implications, limitations, conclusion as well as suggestions for future study.

CHAPTER FIVE
CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

In this chapter the result of the data analysis from the previous chapter were summarized and used to arrive at conclusion on the study findings. The chapter equally presents the major findings, theoretical contributions and managerial implications. Lastly, it terminates with discussion on limitation of the study in addition to suggestion for further research.

5.1 Summary of the Study

The broad objective of this study is to examine the role of microfinance on poverty alleviation in Northwest, Nigeria. To attain this broad goal, specific objectives were developed taking into account the questions the study seeks to answer. Several relevant literatures on microcredit, microsavings, entrepreneurial skills, poverty and its alleviation were reviewed.

While discussing poverty under the literature emphasis was laid on its trend in Nigeria with numerous reduction strategies embarked upon by both the Federal Government and the private sector. The review of the literature revealed divergent positions of literature relating to the role of microfinance on poverty alleviation. While part of the literature stands with the position that it has a positive relationship with poverty alleviation another part hangs with negative relationship. In between

these polar opinions exists the middle cause belonging to scholars who view that there is a mixed relationship between microcredit and poverty alleviation. These conflicting literatures motivated the call for more studies to be conducted beside the use of moderator on the said relationship.

Furthermore, the study also gave a review of literature on other predictor variables as they influence poverty alleviation. The relationship between the study constructs was diagrammatically depicted by the conceptual framework which is explained by financing constraint theory and supported by cyclical poverty theory as well as self-efficacy theory. Experimental research design (specifically the quasi experimental design) employing treatment and control groups otherwise known as static group design was used in this study. The study employed stratified sampling technique to draw the sample from the study population. Equally, the data collected was analyzed using both standard multiple and hierarchical regression and the output of the analysis used in testing the developed hypotheses. Result of the hypotheses testing is summarized in table 5.1.

Table 5.1
Summary of Result of Hypotheses Testing

S/N	Hypothesis	Description	Decision
1	H_1	Microcredit is positively associated with poverty alleviation in Northwest, Nigeria	Supported
2	H_2	Microsavings is positively associated with poverty alleviation in Northwest, Nigeria	Supported
3	H_3	Business Skills is positively associated with poverty alleviation in Northwest, Nigeria	Supported
4	H_4	Entrepreneurial self-efficacy moderates the relationship between microcredit and poverty alleviation in Northwest, Nigeria	Supported
5	H_5	Entrepreneurial self-efficacy moderates the relationship between microsavings and poverty alleviation in Northwest, Nigeria	**Not supported**
6	H_6	Entrepreneurial self-efficacy moderates the relationship between business skills and poverty alleviation in Northwest, Nigeria	Supported
7	H_7	Entrepreneurial self-efficacy moderates the relationship between microcredit, microsavings and entrepreneurial skills; and poverty alleviation in Northwest, Nigeria	Supported

Source: Author's Field Survey

Further, analysis of the collected data resulted in several findings. Synopsis of the results of the statistical tests on the hypothesized relationships is presented below:

5.2 Summary of Findings

To recap, the study investigated the relationship between microcredit, microsavings and entrepreneurial skills; and poverty alleviation with moderating effects of entrepreneurial self-efficacy. Primary data was obtained using an already validated

instrument based on five-point Likert type scale that was adopted from different sources. As the location of the study differs from the originating sources of the instrument EFA was conducted to re affirm its validity. The PCA resulted in the deletion of four out of the thirty-eight items of the questionnaire at the end of which an optimum factor structure was achieved. Next, convergent, discriminant and face validity were ascertained. Additionally, all the constructs were found to have sufficient reliability values as depicted by the Cronbatch's Alpha coefficients.

Standard multiple regression was used to examine the direct relationship between the independent variables and the dependent variable. The result therefrom was used to test hypotheses 1, 2 and 3. The result of the multiple regression analysis for the three predictor variables revealed that each of the predictor variables has a significant positive impact (contribution) on the criterion variable and that the overall model was significant. Microsaving makes the strongest single contribution to poverty alleviation. This implies that microsavings reduced poverty level of borrowers more than microcredit and entrepreneurial skills. This finding is in tandem with previous studies that the core poor benefit more from microsavings than credit. Again, in line with previous research results this finding points to the doggedness of the poor in their zeal to set aside part of their meager earnings so as to enhance their wellbeing.

Next, it was found that microcredit that has a positive relationship with poverty alleviation in Northwest Nigeria. In other words, microcredit beneficiaries

employed the amount lent to them in income generating ventures that yielded returns and improved wellbeing by lowering or alleviating poverty level. Thus, contrary to the assertion that borrowers often divert funds made available to them into non-productive engagements, this study revealed that the effective utilization of the funds borrowed impacted positively in reducing poverty in the study area. Additionally, this positive association between microcredit and poverty alleviation suggests that this study pitched its tent with studies that hang with positive effect of microfinance on poverty alleviation.

The result of the analysis also revealed that entrepreneurial skills relates positively with poverty alleviation in Northwest Nigeria. In other words, the finding shows that an individual's ability to establish and run a business venture efficiently has a positive significant effect on poverty alleviation. The capacity to efficiently channel business resources results in attaining the profit motive of the entrepreneur which in turn produces income and enhance wellbeing. Thus, by improving wellbeing, poverty is ultimately curtailed. In a nutshell, the multiple regression result revealed that the constructs of microcredit, microsavings and entrepreneurial skills have significant positive relationship with poverty alleviation which simply means that the poverty level of the subjects studied, was reduced as a result of breaking their credit constraint, microsavings and their entrepreneurial skills in running their business undertakings. Thus, it can be inferred that despite the debate among scholars on impact superiority of microcredit or microsavings on poverty alleviation, none of them is a silver bullet: neither microcredit nor microsavings can be a stand-alone

remedy to the poverty question. Rather, combining them together will produce a better effect on poverty alleviation. Consequently, this study recommends the combination.

Hierarchical regression result was used to examine the moderating effects of entrepreneurial self-efficacy on the association between microcredit, microsavings and entrepreneurial skills in Northwest Nigeria. In examining the hypothesis relating to the moderating effect of entrepreneurial self-efficacy on the association between microcredit and poverty alleviation, it was discovered that the moderating variable (self-efficacy) moderated the relationship. This implies that subjects' perceived capabilities on their entrepreneurial ventures enhanced their business success with its multiplier effect on poverty reduction. This finding could mean that credit constraint is no doubt a barrier to realizing full potentials of the disadvantaged poor who the conventional orthodox banking system views as too risky to be funded on account of lack of credit history and or collateral; but negative self–perception (for instance self-defeat) could mar the basis for taking the credit, in the event it was provided. In this regard, it can be inferred that failure of many micro borrowers to break the shackles of poverty could be attributed to negative entrepreneurial self-efficacy; meaning that the ventures were undertaken as a sort of ‗trying ones luck'. Thus, this study recommends that MFBs should incorporate into their weekly post-meeting training a brief discussion that will boost clients belief about themselves as a phrase as simple as ―you can do it" (moral persuasion) can do a magic in changing

the microcredit beneficiaries self-perception on their abilities to see their entrepreneurial ventures through.

In examining the hypothesis relating to moderating influence of entrepreneurial self-efficacy on the relationship between microsavings and poverty alleviation in Northwest Nigeria, it was discovered that entrepreneurial self-efficacy did not moderate the relationship. The contributing effect of entrepreneurial self-efficacy in the predictor criterion variable relationship is not statistically significant. The result implies that the moderating variable (self-efficacy) did not enhance the effect of microsavings on reducing the poverty level of the study subjects. Therefore, the hypothesis that predicted this relationship was not supported. However, all the other hypotheses were supported. This finding therefore, revealed that as a moderator entrepreneurial self-efficacy did not show any important or rather statistically significant relationship with microsavings. Nevertheless, as microsavings compliment microcredit in poverty alleviation MFBs should still encourage their clients to save as compulsory microsavings have been documented to have significant positive effect on the loan repayment ability of borrowers.

Entrepreneurial skills mainly centers on the capacity of micro entrepreneurs to efficiently manage their micro ventures in such a way that business goals are attained. In examining the hypothesis relating to moderating influence of entrepreneurial self-efficacy on the relationship between entrepreneurial skills and poverty alleviation in Northwest Nigeria, it was discovered that entrepreneurial self-

efficacy moderated the relationship. The contributing effect of entrepreneurial self-efficacy on the predictor criterion variable relationship is statistically significant. The result implies that the moderating variable (self-efficacy) enhanced the effect of entrepreneurial skills on reducing the poverty level of the study subjects. Therefore, the hypothesis that predicted this relationship was supported. In the light of this finding, this study recommends that MFBs should take all the necessary steps possible to enhance or rather improve their customers' entrepreneurial skills. This can be achieved by increasing the duration of weekly post-meeting training, regular workshops where borrowers' business related issues are jointly discussed, problems identified and solutions provided; and facilitating inter-business interaction for the purpose of sharing vital information and experiences.

Lastly, in examining the hypothesis relating to moderating influence of entrepreneurial self-efficacy on the relationship between microcredit, microsavings and entrepreneurial skills; and poverty alleviation in Northwest Nigeria, it was discovered that entrepreneurial self-efficacy generally moderate the relationship. The contributing effect of entrepreneurial self-efficacy on the predictors-criterion variables relationship is statistically significant. The result implies that the moderating variable enhanced the effect of predictor variables on reducing the poverty level of the study subjects. Therefore, the hypothesis that predicted this relationship was supported. This finding shows that even though, the moderating variable did not influence the relationship between microsavings and poverty alleviation when the predictor was regressed directly with the criterion variable; the

moderating effect manifested significantly as a result of combining all the predictors on the equation. Again, as the association among the constructs as they relate to the dependent variable is positive, means that a positive self-efficacy in the predictors aids poverty alleviation of the MFBs clients. In sum, the finding validated the hypothesized relationship predicting that entrepreneurial self-efficacy moderates the association between the predictor variables (microcredit, microsavings and entrepreneurial skills) on poverty alleviation.

5.3 Theoretical Contribution of the Study

The theoretical relationship among the study constructs as depicted by the framework of this research work is proven by empirical evidence of the study. Worthy of note here is the result of the hypotheses tested in connection to both direct and indirect relationships which all lend support to the theoretical contribution of the study as stated below:

Previous studies on the effect of microfinance on poverty alleviation have inconsistent findings and conclusions. Several scholars came to the conclusion that the relationship between microfinance and poverty alleviation is positive (see, for example Yunus, 2003; Mondal, 2009; Durrani et al. 2011; Imai et al. 2012; Appah, John & Wisdom, 2012; Noruwa & Emeka, 2012; Ashta, Couchoro & Musa, 2014; Gilbert, Boateng & Bompoe, 2015). Other researchers think differently by concluding that the said association has negative outcome. That is to say, microfinance only makes the real poor worse off as it is not a poverty fighting tool

but also shield donors from focusing on viable and effective interventions that can address the global poverty problem (see, for example; Karnani, 2007; Westober, 2008; Chowdhury, 2009; Walter, 2010; Bateman & Chang, 2012). Similarly, there are scholars who did not take any of these two polar positions. Rather they opined that the relationship produces a mixture of positive and negative outcomes (see, for example Dobra, 2011; Rooyen et al. 2012; Tavanti, 2013). The empirical findings of this study show that the effect of microfinance on poverty alleviation in the study area is positive. Thus, this research work has made a contribution to the literature and to the on-going debate.

Further, most of previous studies on microfinance role on poverty alleviation were conducted in the southern part of Nigeria (see, for example Aigbokhan, 2011; Appah, John & Wisdom, 2012; Noruwa & Emeka, 2012; Nkpoyen & Eteng, 2012; Ogwumike & Akinnibosun, 2013; Taiwo, Ikpefan & Isibor, 2014). This means there is paucity of empirical works on the effect of microfinance on poverty alleviation in northwestern part of the country despite the fact that the region has 71.1% poverty incident. It therefore, follows that this research work will help in reducing the identified relative paucity of researches in the study area.

Again, this study revealed that entrepreneurial self-efficacy has significant influence on the effect of microcredit and entrepreneurial skills on poverty alleviation in the study area. This finding therefore, not only contributes to the body of knowledge but also validates the submission of Fobes, (2005) that entrepreneurial self-efficacy

enhances business performance. In addition, the fusion of constructs of microcredit, microsavings and entrepreneurial skills together with entrepreneurial self-efficacy as a moderating variable which formed the framework for this study is relatively new and has not been fully attended to in the literature especially in the context of a developing country like Nigeria. It is therefore, believed that the study will make significant support to the body of knowledge.

Similarly, to the knowledge of the researcher there was no known research work that empirically examined the moderating effect of entrepreneurial self-efficacy on the relationship between microcredit, microsavings and entrepreneurial skills; and poverty alleviation. Therefore, this research work filled the gap by empirically examining the moderating effect of entrepreneurial self-efficacy on the relationship between the predictor variables and the criterion variable of the study. The result of the moderation analysis as discussed in the preceding chapter revealed a significant moderation influence. Thus, this study made a contribution by filling the identified gap.

5.4 Methodological Contribution of the Study

Most of the previous studies on the relationship between microfinance and poverty alleviation in Nigeria center on the supply side: breaking the credit constraint but paid little attention to the demand side (micro borrowers' inherent abilities which can improve the effect of the availability and accessibility of microcredit). Using quantitative approach, this research work investigates the nature of the relationship

between the study constructs and moderating variable of microentreprenuers self-efficacy. It therefore, provides a fresh perspective and hence, a shift from the concentration of researches on the effect of breaking the poor people's credit constraint (supply side) to the attributes of poor borrowers (demand side) which can make or mar the basis for being customers of MFBs. Thus, examining the effect of micro borrowers' psychological attribute in addition to the credit provision as they influence poverty alleviation in the study area contributes to methodology.

Again, several previous studies on the relationship between microfinance and poverty alleviation in Nigeria employed the before and after or rather, pretest-posttest design. This study however, used the Posttest-only Control Group Design (also known as static group design) which is an offshoot of quasi-experimental design. It therefore, follows that the use of relatively different design in this study makes a methodological contribution.

Moreover, as was made mention earlier, all the measurement scales used in this study were adopted from different sources with reported high level of validity and reliability. However, as the instrument was used in different environment, means there was the need for its cross-validation so as to confirm its validity and reliability. Consequently, PCA was conducted, convergent and discriminant validity as well as internal consistency and composite reliability were calculated and found to meet the threshold bench marks. Thus, this study made methodological contribution by

empirically ascertaining the validity and reliability of the adopted scales as applied within the context of Nigeria.

5.5 Managerial and Policy Implications of the Study

The standard multiple regression result proved that the constructs of microcredit, microsavings and entrepreneurial skills have significant positive effect on poverty alleviation. However, as was made mention, among these predictors microsavings exerted more positive influence on poverty alleviation than microcredit and business skills. This indicates that MFBs should provide both products to their clients but with greater emphasis on microsavings. Customers should constantly be reminded and encouraged to save as savings normally produce a win-win situation for both the MFBs and the customers: it allows the micro saver to accumulate funds for both future consumption and business expansion while it serve as a security for MFBs funds. Additionally, MFBs need to enhance their periodic training programs with a view to improving the business skills of their customers.

Equally important, MFBs should inculcate entrepreneurial self-efficacy among their customers through training and giving exposure with successful microentreprenuers. This is because by focusing and establishing contact with successful entrepreneurs the MFBs‘ borrowers could view those successful entrepreneurs as ‗coping model‘ who in turn can exert positive influence on the microfinance beneficiaries by improving their ESE for successful venture operation which will have a multiplier effect of raising income, enhancing wellbeing and poverty alleviation.

Furthermore, based on the empirical evidence produced by this study that microcredit, microsavings and business skills have significant positive effect on poverty alleviation in Northwest Nigeria, the study aligned itself with previous works that extolled microfinance as poverty alleviation tool. Thus, stakeholders in the fight against the menace of poverty in Nigeria (government at various levels, NGOs and international agencies) should not only continue to utilize but massively support microfinance as an intervention alternative in combating the excruciating poverty in the country. This can be achieved by establishing more MFBs in the north western part of Nigeria which has the highest population, highest number of chronically poor and lowest number of MFBs among all the six geo-political zones in the country. This can go a long way in bridging the disparity in the poverty incidence between the northern region and its southern counterpart and ultimately reduce the poverty level in Nigeria as a whole.

The result of hierarchical regression revealed a significant positive moderating influence of entrepreneurial self-efficacy on the relationship between microcredit, microsavings and entrepreneurial skills; and poverty alleviation. That is to say the positive perceived entrepreneurial abilities of the MFBs customers wielded positive influence on their effective running of their microenterprises which in turn alleviate their poverty status. These findings therefore, suggest that MFBs should device all means possible to see that they enhance the entrepreneurial self-efficacy of their customers by regularly reminding them for instance that, their ventures are not for experiments but rather they are in those various ventures to succeed and improve

their well beings; and they can do it. This simple moral persuasion can create significant positive outcome in addressing the poverty of the MFBs customers.

5.6 Limitations of the Study

Despite the numerous contributions identified with this research work, a number of limitations are noted as well. First, although the study area is home to people from all the regions of Nigeria, with their varied ethnic, cultural and religious affiliations, which in turn makes the sample drawn to be homogeneous and allows for result generalization. Also all the MFBs in the country are primarily concerned with addressing the problem of financial exclusion of the poor by providing financial products under similar terms and conditions. Hence, little does it matter as to where the poor obtain the product. Still, the regional connotation is a limitation to the study.

Second, poverty is endemic in Africa and more pronounced in the Sub-Saharan Africa (SSA). For this study to be replicated in another SSA the model's reliability has to be put to test. Third, time and resources constraints aided the decision of the researcher to collect data within a short period as is customary with cross-sectional data. Longitudinal approach of data collection which involves longer period however, could outweigh the cross-sectional approach in survey research. The choice of cross-sectional approach of data collection over the longitudinal approach limits this study.

Moreover, another limitation of this study is in the sampling technique adopted to obtain the control group. This group is made up of people who applied for microcredit but were not successful mainly due to serious competition for the loan as its demand is much higher than its supply. Members of this group are not customers of the sampled MFBs. With the records from the loan application register some of them (for instance, hawkers and peddlers) could not be found. Thus, the researcher used convenience sampling technique to obtain the sample for this group. The use of this sampling technique for the control group is a limitation to this study.

5.7 Suggestions for Future Study

The relative regional paucity of empirical studies on the role of microfinance on poverty alleviation in Northwest Nigeria suggests the need for more researches in the area. Equally, future studies should not only be on a national scale but also focus on the borrowers attributes- demand side (such as family size and cultural practices) that may have significant effect on their ability to efficient establish or expand micro income generating ventures; rather than concentrating on the ‗traditional' supply of credit only.

Further, it is on record that Northeastern part of Nigeria has the highest poverty level in the country with its 72.16% poverty incidence with Northwest at its trail with 71.17% poverty incidence. Again, the region is the most marginally hit by the Boko Haram insurgency which worsen the miserable condition of the poor. Thus, future studies should investigate how the insurgency has affected the association between

microfinance and poverty alleviation in the region using longitudinal data so as to have a relatively longer period of observation. In this vein, as poverty is a product of the fusion of individual attributes and social and economic factors that put the individual at disadvantage, the effect of any long term economic factors on the manipulated variable (due to longitudinal design) would be discovered.

Furthermore, as there has been an outcry of exploitation by MFBs in Trinidad, Bangladesh, Brazil and India as a result of commercialization of the banks which makes them to be wholly profit-driven. This in turn, makes them to charge exorbitant interest rates, thereby derailing from the essence of their establishment: seeing the poor customers as a ladder for attaining their profit maximization motive. Thus, future studies in the area of microfinance in Nigeria should investigate the terms and condition (such as interest rates and period of credit) under which loan is advanced by the MFBs.

Again, as the demand for donor funds is greatly higher than its availability, there is the need to passion out ways of reducing the over reliance of MFBs on such interventions. Future studies should investigate how MFBs in Nigeria can be more independent and as such self-sufficient so as to attain long run sustainability while avoiding any danger of mission drift.

In addition, literature has shown several arguments in favour of microcredit as a poverty fighting tool. However, as it is not a silver bullet MFBs should combine it

with other services that make it more effective in enhancing the welfare of poor customers. Future studied should investigate the effect of microfinance training on micro borrowers' business performance and poverty reduction in Nigeria.

Again, most studies on poverty alleviation using the intervention of microfinance center on breaking the credit constraint but maintained a blind eye on the most vulnerable poor – women. The demographic information indicated that about seventy percent (70%) of the microfinance beneficiaries were men. Therefore, future researchers should study why women were not avail with the credit facilities despite the fact there are more poor women than men.

Lastly, to address the identified limitation associated with the sampling technique for the control group (convenience sampling) future studies should employ probability sampling as it is more scientific.

5.8 Conclusion

The unfinished business of 21st century is eradication of poverty. Seventy percent (70%) of Nigerians are in absolute poverty. And despite all the concerted effort by all the stakeholders (the Federal Government as well as the private sector and Non-Governmental Organizations-NGOs) to tackle the problem, through microfinancing schemes which were employed and aimed at breaking the credit constraint of the poor; improving their productive capacity; generate income; accumulate savings; raise standard of living and ultimately reduce poverty level and achieve economic

prosperity; the level of poverty in the country is still alarming. The poverty level compressed aggregate demand which in turn aggravated the unemployment problem leading to social vices.

This study assessed the effects of microfinance on poverty alleviation in Northwest Nigeria and in line with the findings the study concludes that microfinance has significant positive causal association with poverty alleviation in Northwest Nigeria. Microcredit, microsavings and entrepreneurial skill all have a significant positive impact (contribution) on the criterion variable and that the overall model was significant. The study provided empirical evidence that microsaving makes the strongest single contribution to poverty alleviation. This implies that microsavings reduced poverty level of borrowers more than microcredit and entrepreneurial skills. This finding is in tandem with previous studies that the core poor benefit more from microsavings than credit. Again, in line with previous research results this finding points to the fact that despite their condition, the poor still save part of their little income so as to enhance their wellbeing.

Similarly, this study provided empirical evidence of a significant moderation effect of entrepreneurial self-efficacy on the relationship between two of the predicting variable and criterion variable separately and their sum simultaneously. However, the study proved that entrepreneurial self-efficacy did not moderate the relationship between microsavings and poverty alleviation in Northwest, Nigeria.

The various literatures reviewed provided the basis for developing the conceptual model for this study. The model as highlighted earlier comprises of the constructs of microcredit, micro savings and entrepreneurial skills. The discussion of the preceding chapters showed the connectivity between the conceptual model and the underpinning theories of cyclical poverty and financing constraint which were supported by the self-efficacy theory. It follows therefore, that, the result obtained are in line with the postulations of these theories.

Introducing micro borrowers' psychological attributes (self-efficacy) in relation to microfinance effect on poverty alleviation in Northwest, Nigeria results in a shift of emphasis from the concentration of researches with focus purely on microcredit to the combination of the loan and the micro borrowers. Future researchers in the area of microfinance and its relationship with poverty alleviation should focus their attention in this direction so that meaningful discoveries could perhaps, be made on why the unprecedented rise in the number of MFBs and their client base only brings a little change in the state of deprivation in necessities of life faced by 70% of Nigerians. Finally, the researcher hopes this study will provide an insight to the management of MFBs in Nigeria on the benefits derivable from a positive entrepreneurial self-efficacy of their clients as it positively affects their micro businesses and hence, a reduction in their poverty level.

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Appendix A

Sample Size Table

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
120	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382

Appendix B

Questionnaire

SURVEY ON EFFECT OF MICROFINANCE BANKS ON POVERTY ALLEVIATION IN NORTHWEST, NIGERIA

Dear Sir/Madam,

I am a postgraduate student of Universiti Utara Malaysia, and currently conducting a survey on impact of microfinance on poverty alleviation in North-West, Nigeria as part of the requirements for the award of Ph.D. degree. Kindly, help by completing this questionnaire as accurately as possible. Please note that your responses will be treated with utmost confidentiality and used purely for academic purposes. I highly appreciate your co-operation.

Thank you in anticipation of your response.

Yours sincerely,

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General Guidelines for the Survey

1. In section 1 of the questionnaire you are required to tick [√] or write your answers in the space provided while in other sections you are required to circle the option that best represents your opinion pertaining to each item.

2. Any option you choose is a correct answer. Therefore, we would appreciate your dispassionate and complete response to help us understand your views.

3. We would like to re-assure you that all your responses will be treated with utmost confidentiality and will be accessed only by parties to this research.

4. The questionnaire is divided into 6 sections. Kindly answer all questions in all these sections.

5. All the questions are based on 5- point Likert type rating scale as follows:
1 – Strongly disagree (SD) 2 – Disagree (DA) 3 – Neither agree nor disagree (NAD)
4 – Agree (A) and 5 – Strongly agree (SA)

Section 1: Demographic Information

Please tick [√] or fill in the blank space provided for each question as appropriate

Respondent No: ----------

I	**Gender:**	☐	**Male**	**VIII**	**Type of Business:**	☐	**Farming**
		☐	Female		a. Agriculture	☐	Livestock
						☐	Poultry
						☐	Others …….……
II	Age:	☐	18 – 25		b. Trading:	☐	Kiosk/Shop
		☐	26 – 35			☐	Table Wares
		☐	36 – 45			☐	Hawking
		☐	46 – 55				
		☐	56 and above		c. Services:	☐	Restaurant/Beverages
						☐	Transport(Okada/Tri-cycle)
III	Marital Status:	☐	Single			☐	Barbing/ Hair Dressing
		☐	Married			☐	Others……..……..
		☐	Divorced				
		☐	Widow	IX	Profit/Week (Avg):	☐	Less than N3000
		☐	Separated			☐	N3000 – N5000
						☐	N6000 – N8000
IV	Number of Children:	☐	None			☐	N9000 – N11000
		☐	1 – 2			☐	N12000 and above
		☐	3 – 6				

		☐	6 and above	X	Savings/ Week:	☐	Less than N1000
						☐	N1000 – N2000
						☐	N3000 – N4000
						☐	N5000 – N6000
						☐	N7000 and above
V	Ethnicity:	☐	Fulani/Hausa				
		☐	Yoruba	XI	Household Assets:	☐	Bicycle
		☐	Igbo		a. Transportation	☐	Motor Cycle
		☐	Others			☐	Others
			…….……				……..……..
VI	Educational Level:	☐	Primary				
		☐	Secondary		b. Domestic Appl	☐	Radio/TV
		☐	Tertiary			☐	Refrigerator
		☐	Others			☐	Others
			…….……				……..……..
					c. Others	☐	Farm land
VII	Years in Business:	☐	3 Years			☐	Animals(Sheep,Goat,Cow)
		☐	3 – 5 Years			☐	Jewelry
		☐	6 Years and above	XII	Location	☐	Rural
						☐	Semi Urban
						☐	Urban

Section 2: **The following statements describe the nature of microfinance banks' microcredit. Kindly specify the extent to which you agree or disagree with these statements based on 5-point Likert-type scale with 1= strongly disagree (SD), 2= disagree (DA), 3= neither agree nor disagree (NAD), 4= agree (A) and 5= strongly agree (SA). Please circle the correct option.**

		SD	DA	NAD	A	SA
1	Microcredit helped me to start a new business	1	2	3	4	5
2	The amount lent to me is used in expanding my business	1	2	3	4	5
3	Agro production is increased by availing microcredit	1	2	3	4	5
4	My income increased after receiving microcredit	1	2	3	4	5
5	Microcredit improved my income contribution in my household	1	2	3	4	5
6	Microcredit helped in increasing my purchasing power	1	2	3	4	5

Section 3: The following statements describe the aspects of microsavings. Kindly specify the extent to which you agree or disagree with these statements based on 5-point Likert-type scale with 1= strongly disagree (SD), 2= disagree (DA), 3= neither agree nor disagree (NAD), 4= agree (A) and 5= strongly agree (SA). Please circle the correct option.

		SD	DA	NAD	A	SA
7	Mandatory savings is a requirement for loan	1	2	3	4	5
8	Mandatory savings secures the loan	1	2	3	4	5
9	Voluntary savings allows me to easily repay the loan	1	2	3	4	5
10	Voluntary savings helps me in meeting my household needs	1	2	3	4	5
11	Voluntary savings helps me to improve my business	1	2	3	4	5

Section 4: The following statements describe the aspects of microcredit borrowers' business skills. Kindly specify the extent to which you agree or disagree with these statements based on 5-point Likert-type scale with 1= strongly disagree (SD), 2= disagree (DA), 3= neither agree nor disagree (NAD), 4= agree (A) and 5= strongly agree (SA). Please circle the correct option.

		SD	DA	NAD	A	SA
12	I employ basic marketing and selling strategies	1	2	3	4	5
13	I always achieve good inventory management	1	2	3	4	5
14	I effectively plan and manage business budget	1	2	3	4	5
15	I always give my customers good service	1	2	3	4	5
16	I use the amount borrowed for the specified purpose	1	2	3	4	5
17	I separate business expenditures from personal expenses	1	2	3	4	5
18	I promptly keep records of cash and expenses of my business	1	2	3	4	5

Section 5: The following statements describe the aspects of microfinance poverty alleviation. Kindly specify the extent to which you agree or disagree with these statements based on 5-point Likert-type scale with 1= strongly disagree (SD), 2= disagree (DA), 3= neither agree nor disagree (NAD), 4= agree (A) and 5= strongly agree (SA). Please circle the correct option.

		SD	DA	NAD	A	SA
19	Microfinance helps me and my household to afford nutritious food	1	2	3	4	5
20	Microfinance helps my household to afford medication and healthy measures	1	2	3	4	5
21	Microfinance improves my children school attendance at primary and higher level	1	2	3	4	5
22	Microfinance improves my housing conditions	1	2	3	4	5
23	Microfinance helps me to afford good clothes for my household	1	2	3	4	5
24	Microfinance helps my household to afford transportation	1	2	3	4	5
25	I can now afford to pay my household electricity bills	1	2	3	4	5
26	I now have radio, TV and hot plate	1	2	3	4	5

27	Microfinance improves my household sanitation for example having a latrine	1	2	3	4	5
28	I now have household assets like livestock or jewelry	1	2	3	4	5

Section 6: The following statements describe the aspects of microfinance borrowers' entrepreneurial self-efficacy. Kindly specify the extent to which you agree or disagree with these statements based on 5-point Likert-type scale with 1= very little (VL), 2= little (L), 3= neither little nor much (NLM), 4= much (M) and 5= very much (VM). Please circle the correct option.

	How much confidence do you have in your ability to….?	VL	L	NLM	M	VM
29	Come up with a new idea for a product or service	1	2	3	4	5
30	Identify the need for a new product or service	1	2	3	4	5
31	Design a product or service that will satisfy your customers	1	2	3	4	5
32	Estimate amount of money necessary to start your business	1	2	3	4	5
33	Determine a competitive (good) price of your product or service	1	2	3	4	5
34	Come up with a good marketing/advertising campaign for your product or service	1	2	3	4	5
35	Clearly explain verbally or in writing your business idea in everyday terms	1	2	3	4	5
36	Make contact with other entrepreneurs and exchange information with them	1	2	3	4	5
37	Organize and maintain the financial records of your business	1	2	3	4	5
38	Manage the financial assets of your business	1	2	3	4	5

Thank you so much for your kind gesture in completing this questionnaire objectively.

APPENDIX B1

List of Experts: Face and Content Validity

1. Prof (Dr.) Kuperan K. Viswanathan Professor of Resource economics and Management, Othman Yeop Abdullah Graduate School of Business (OYA), Universiti Utara Malaysia.
2. Dr Noraza Mat Udin, Senior Lecturer, Accounting and Experimental Research, College of Business (COB), Universiti Utara Malaysia.
3. Dr Abdullahi Hassan Gorun Dutse, Senior Lecturer, Business Administration and Small and Medium Enterprises (SMEs) College of Business (COB), Universiti Utara Malaysia.
4. Alh Adamu Ali, Branch Head RanoKibiya Microfinance Bank, Nigeria.
5. Alh Bala Isa, Credit Manager, Kano West Microfinance Bank, Nigeria.

Appendix C

Skewness and Kurtosis

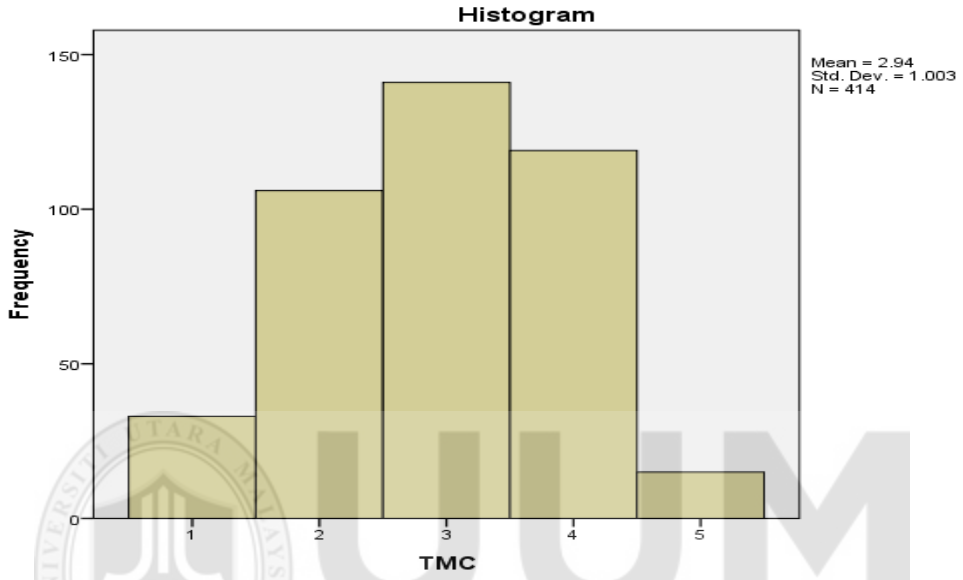
			Statistic	Std. Error
TMC	Mean		2.94	.049
	95% Confidence Interval for Mean	Lower Bound	2.85	
		Upper Bound	**3.04**	
	5% Trimmed Mean		2.95	
	Median		3.00	
	Variance		1.007	
	Std. Deviation		**1.003**	
	Minimum		**1**	
	Maximum		**5**	
	Range		4	
	Interquartile Range		2	
	Skewness		**-.149**	**.120**
	Kurtosis		**-.666**	**.239**
TMS	Mean		3.19	.050
	95% Confidence Interval for Mean	Lower Bound	3.09	
		Upper Bound	3.28	
	5% Trimmed Mean		3.21	
	Median		3.00	
	Variance		1.023	
	Std. Deviation		1.012	
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		1	
	Skewness		-.224	.120
	Kurtosis		-.151	.239
TBS	Mean		3.19	.047
	95% Confidence Interval for Mean	Lower Bound	3.10	
		Upper Bound	3.28	
	5% Trimmed Mean		3.21	
	Median		3.00	
	Variance		.904	
	Std. Deviation		.951	

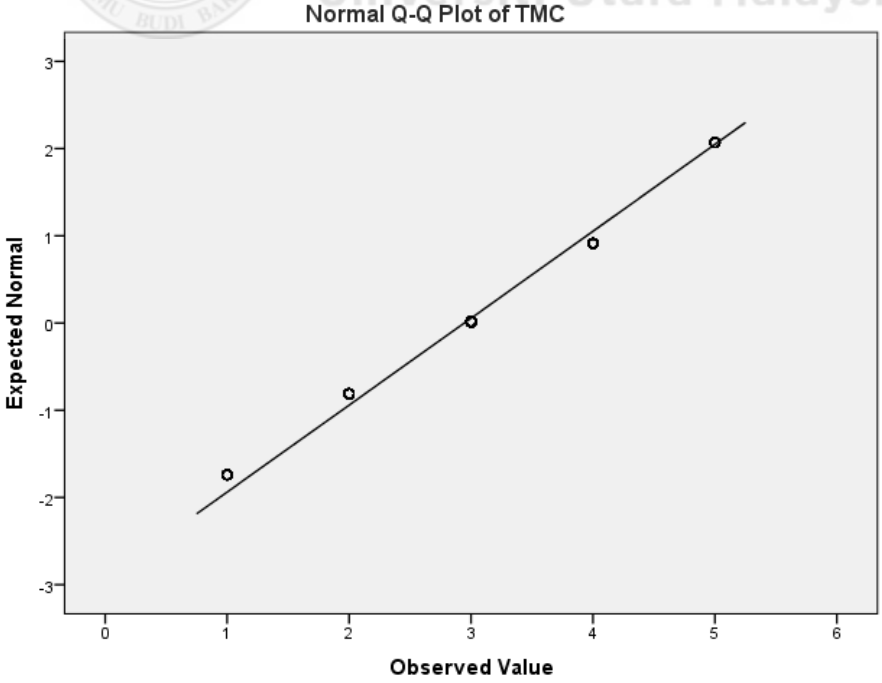
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		1	
	Skewness		-.401	.120
	Kurtosis		-.006	.239
TMF	Mean		3.09	.048
	95% Confidence Interval for Mean	Lower Bound	2.99	
		Upper Bound	3.18	
	5% Trimmed Mean		3.09	
	Median		3.00	
	Variance		.971	
	Std. Deviation		.985	
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		2	
	Skewness		-.068	.120
	Kurtosis		-.583	.239
TESE	Mean		3.34	.042
	95% Confidence Interval for Mean	Lower Bound	3.26	
		Upper Bound	3.43	
	5% Trimmed Mean		3.34	
	Median		3.00	
	Variance		.744	
	Std. Deviation		.863	
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		1	
	Skewness		-.041	.120
	Kurtosis		-.234	.239

Appendix D

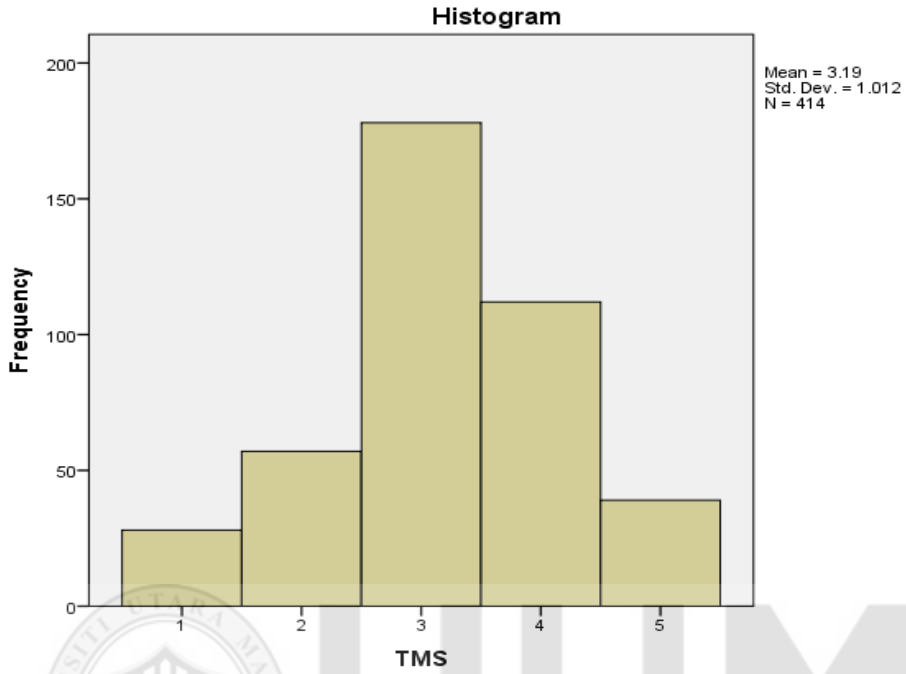
Histograms and Normal Q-Q Plots

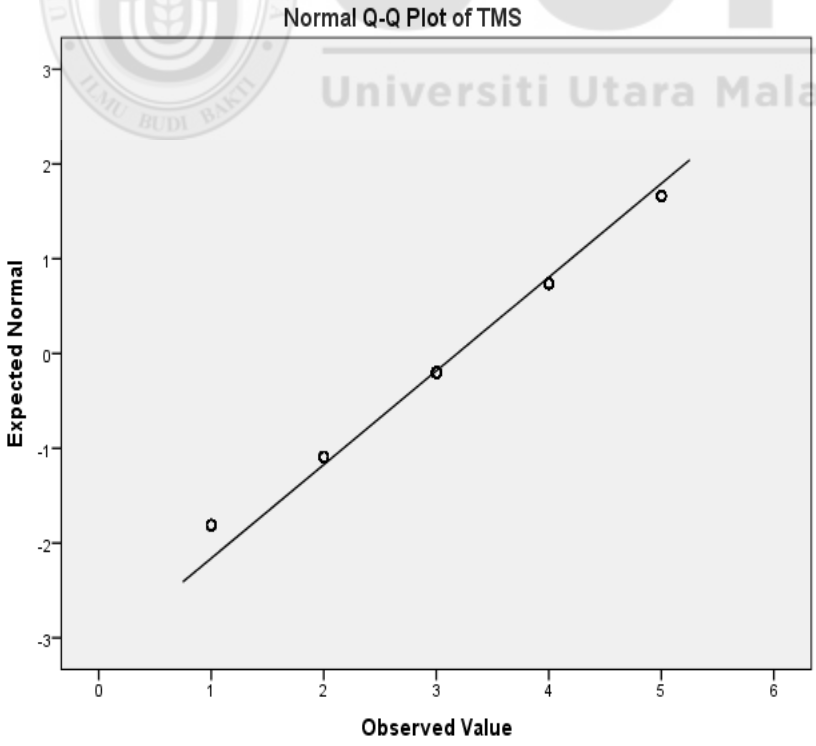
Appendix D1



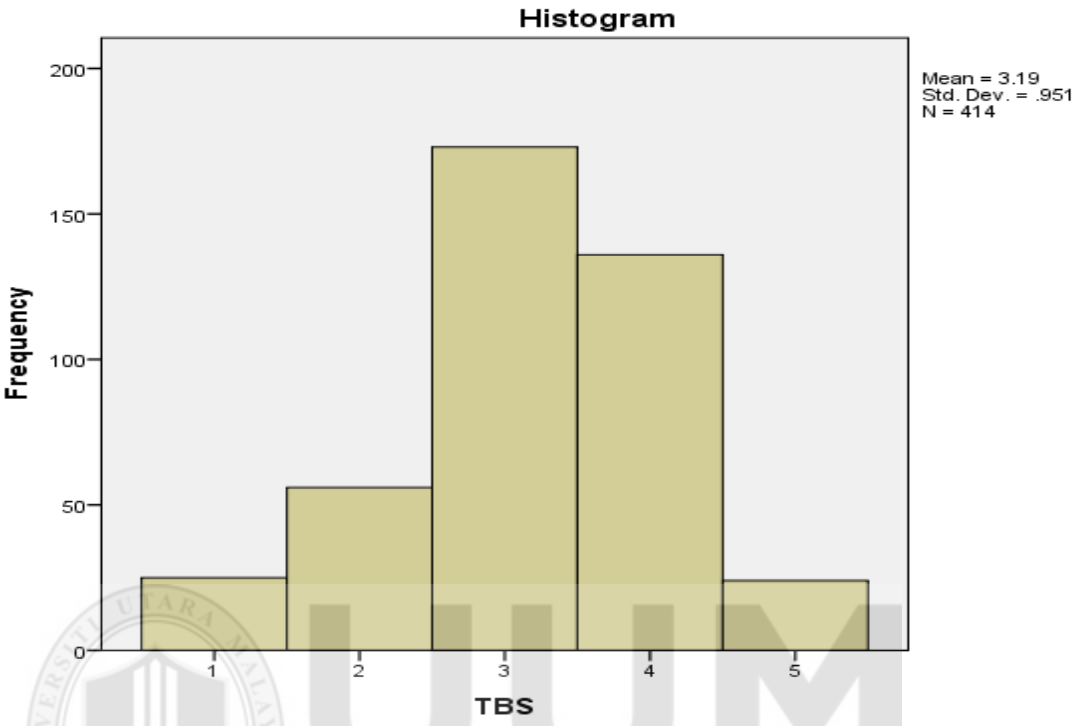


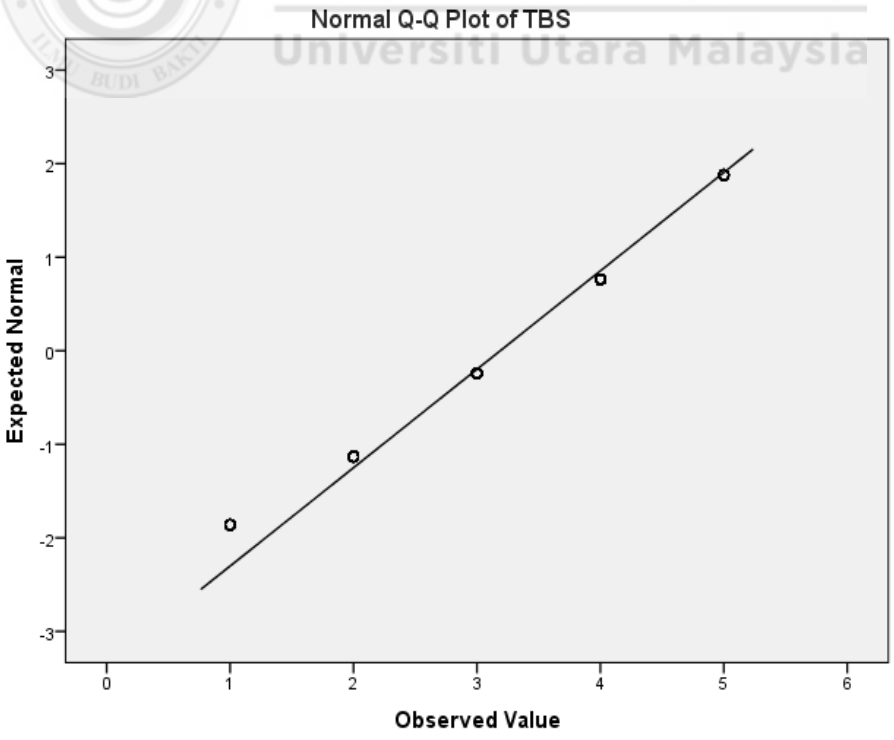
Appendix D2



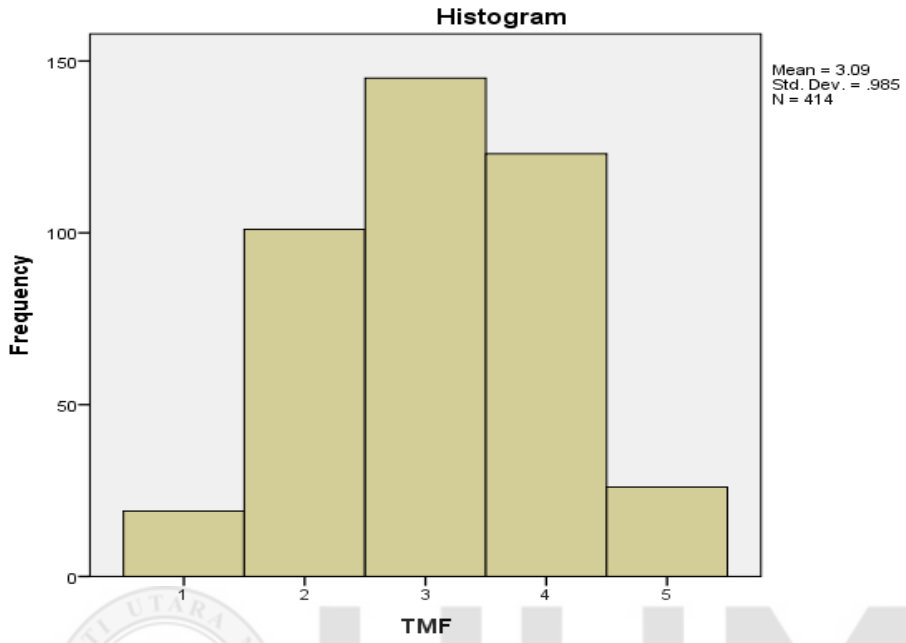


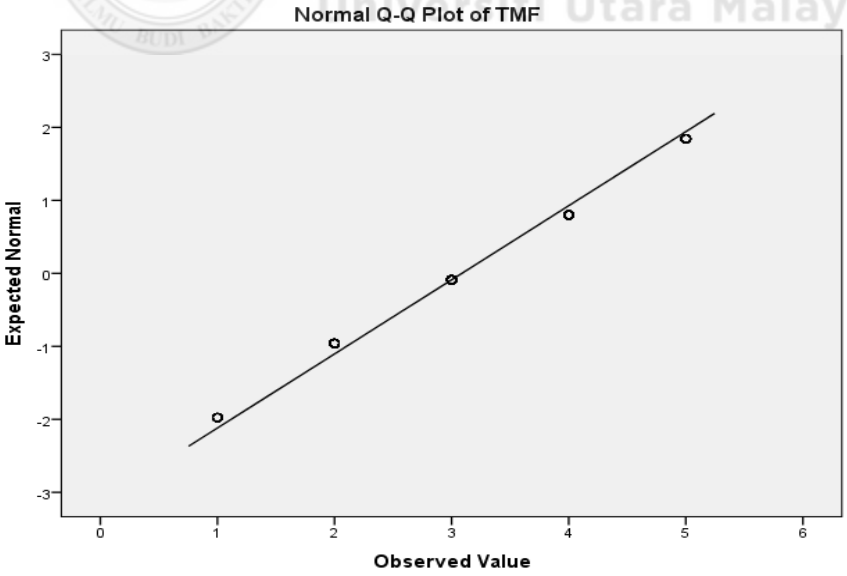
Appendix D3



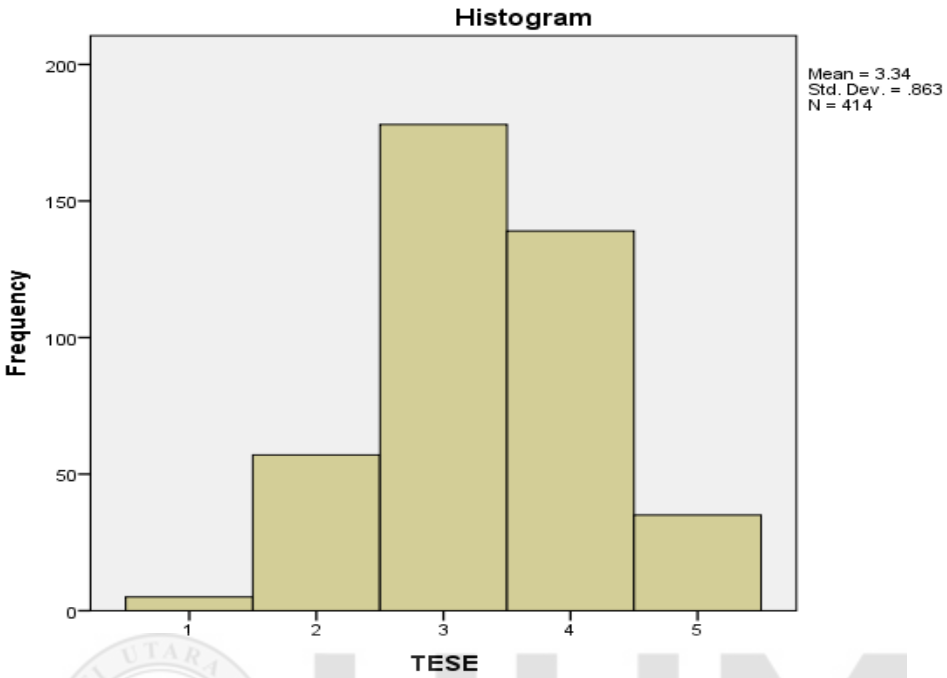


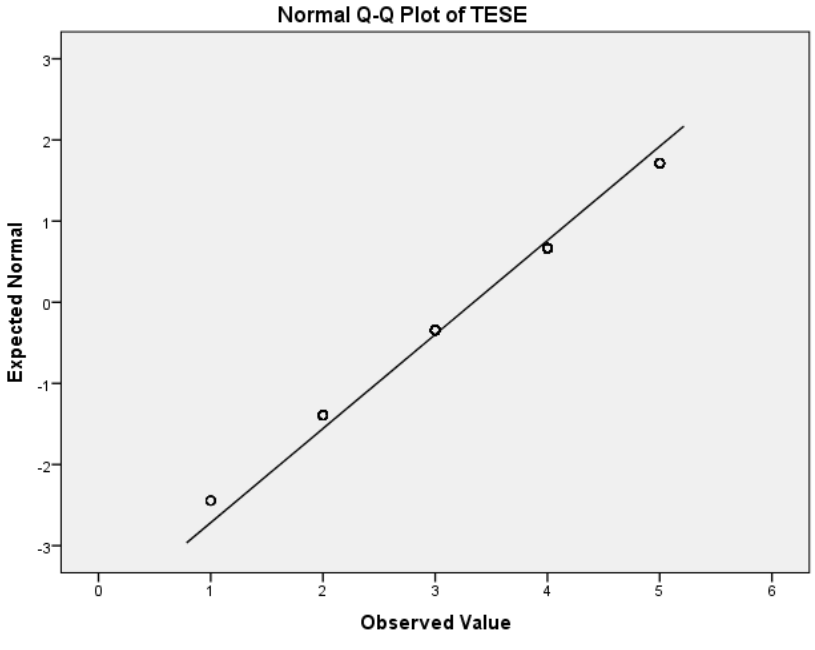
Appendix D4





Appendix D5





Appendix E

Significant Factor Loadings

Guideline for Identifying Significant Factor Loadings Based on Sample Size

Factor Loading	Sample Size Needed for Significance[a]
.30	350 and above
.35	250
.40	200
.45	150
.50	120
.55	100
.60	85
.65	70
.70	60
.75	50

Source: Hair et al. (2010)

[a]Significance is based on a .05 significance level (**a**), a power level of 80 percent, and standard errors assumed to be twice those of conventional coefficients.

Appendix F

Exploratory Factor Analyses Results

Appendix F1 Unrotated Total Variance Explained for Treatment Group

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.433	22.192	22.192	8.433	22.192	22.192
2	3.057	8.045	30.237	3.057	8.045	30.237
3	2.466	6.489	36.726	2.466	6.489	36.726
4	2.236	5.884	42.610	2.236	5.884	42.610
5	1.949	5.130	47.740	1.949	5.130	47.740
6	1.578	4.152	51.892	1.578	4.152	51.892
7	1.373	3.614	55.507	1.373	3.614	55.507
8	1.159	3.051	58.558	1.159	3.051	58.558
9	1.091	2.870	61.427	1.091	2.870	61.427
10	1.005	2.645	64.072	1.005	2.645	64.072
11	.901	2.370	66.443			
12	.868	2.285	68.728			
13	.788	2.074	70.802			
14	.770	2.027	72.829			
15	.699	1.838	74.667			
16	.684	1.800	76.467			
17	.667	1.756	78.223			
18	.635	1.672	79.895			
19	.609	1.604	81.499			
20	.577	1.519	83.019			
21	.536	1.412	84.430			
22	.506	1.331	85.761			
23	.487	1.281	87.042			
24	.467	1.228	88.270			
25	.456	1.199	89.469			
26	.427	1.123	90.593			
27	.387	1.020	91.612			
28	.358	.943	92.556			
29	.356	.937	93.493			
30	.333	.876	94.369			
31	.322	.848	95.217			
32	.319	.840	96.057			
33	.293	.771	96.828			
34	.274	.721	97.548			
35	.262	.689	98.238			
36	.240	.631	98.869			
37	.227	.598	99.467			
38	.203	.533	100.000			

Extraction Method: Principal Component Analysis.
a. Group = Treatment

Appendix F2 Unrotated Communalities for Treatment Group

Communalities[a]

	Initial	Extraction
MC1	1.000	.783
MC2	1.000	.768
MC3	1.000	.660
MC4	1.000	.633
MC5	1.000	.538
MC6	1.000	.387
MS3	1.000	.686
MS4	1.000	.711
BS1	1.000	.691
BS2	1.000	.651
BS4	1.000	.704
BS6	1.000	.554
MF1	1.000	.618
MF3	1.000	.782
MF5	1.000	.678
MF7	1.000	.655
MF9	1.000	.691
MF10	1.000	.419
ESE1	1.000	.694
ESE2	1.000	.588
ESE3	1.000	.619
ESE4	1.000	.517
ESE5	1.000	.589
ESE6	1.000	.640
ESE7	1.000	.583
ESE8	1.000	.702
ESE9	1.000	.652
MEAN(MS1,ALL)	1.000	.737
MEAN(MS2,ALL)	1.000	.768
MEAN(MS5,ALL)	1.000	.586
MEAN(BS3,ALL)	1.000	.644
MEAN(BS5,ALL)	1.000	.627
MEAN(BS7,ALL)	1.000	.562
MEAN(MF2,ALL)	1.000	.617
MEAN(MF4,ALL)	1.000	.738
MEAN(MF6,ALL)	1.000	.694
MEAN(MF8,ALL)	1.000	.530
MEAN(ESE10,ALL)	1.000	.651

Extraction Method: Principal Component Analysis.
a. Group = Treatment

APPENDIX F3

a. KMO and Bartlett's Test (treatment group)

KMO and Bartlett's Test[a]

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.853
Bartlett's Test of Sphericity	Approx. Chi-Square	4179.520
	Df	703
	Sig.	.000

a. Group = Treatment

b. KMO and Bartlett's Test (control group)

KMO and Bartlett's Test[a]

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.609
Bartlett's Test of Sphericity	Approx. Chi-Square	1777.469
	Df	703
	Sig.	.000

a. Group = Control

APPENDIX F4 Unrotated Component Matrix for Treatment Group

Component Matrix[a,b]

	Component									
	1	2	3	4	5	6	7	8	9	10
MC1	.339	.023	-.116	.159	-.117	.362	-.645	-.165	.205	-.022
MC2	-.155	.043	.160	-.058	.277	.130	.734	.245	-.130	.068
MC3	.113	-.016	-.019	-.029	.179	.506	.149	.117	.561	-.083
MC4	.194	-.082	.107	.057	.112	.611	.134	-.299	-.270	.087
MC5	.370	-.164	.037	.141	.382	.401	-.036	.040	-.076	-.192
MC6	.322	-.107	.139	-.047	.017	.452	-.010	.007	-.042	.211
MS3	.286	-.077	.075	.624	-.205	.033	.153	.009	.092	-.358
MS4	.351	-.093	.110	.593	-.101	-.183	.059	.001	.063	-.405
BS1	.420	.529	.259	-.031	-.014	.144	-.239	.132	-.253	-.089
BS2	.300	.554	.329	-.143	-.181	.051	.016	.020	-.278	-.111
BS4	.341	.617	.264	-.150	-.232	-.015	.071	.011	-.057	-.231
BS6	.447	.508	.202	-.114	.034	-.090	-.097	.025	-.040	-.149
MF1	.215	-.445	.436	-.084	-.268	.009	-.076	.217	.005	.228
MF3	.303	-.499	.536	-.146	-.305	-.029	-.022	.021	.151	.120
MF5	.363	-.430	.517	-.131	-.249	-.077	.078	-.051	.018	-.011
MF7	.339	-.381	.545	-.143	-.228	-.006	.060	-.107	.008	-.100
MF9	.572	-.200	.170	-.114	.321	-.103	-.253	.200	-.253	-.003
MF10	.458	-.084	.171	-.014	.231	.231	-.022	.195	-.160	-.040
ESE1	.572	-.101	-.359	.002	-.137	.007	-.068	.419	-.169	.034
ESE2	.549	.062	-.335	-.014	-.118	.083	.099	.362	.055	-.078
ESE3	.527	-.169	-.306	-.073	-.167	-.037	-.041	.427	.014	-.022
ESE4	.553	-.125	-.317	-.171	-.136	.095	.087	.023	.169	-.048
ESE5	.579	-.007	-.297	-.180	-.091	-.086	.083	-.243	-.159	.161
ESE6	.685	-.099	-.202	-.126	-.281	-.103	-.026	-.097	-.032	.059
ESE7	.654	-.073	-.297	-.076	-.124	-.008	.190	-.006	.016	.067
ESE8	.694	.016	-.259	-.127	-.054	.081	.174	-.302	-.025	-.072
ESE9	.716	-.062	-.269	-.013	-.134	-.101	.075	-.122	-.087	.079
MEAN(MS1,ALL)	.411	.130	-.004	.618	.133	.011	-.105	-.003	-.128	.352
MEAN(MS2,ALL)	.320	.106	.060	.697	.041	-.168	.122	-.040	-.031	.342
MEAN(MS5,ALL)	.526	-.111	.124	.496	-.160	.037	.096	-.012	-.015	.001
MEAN(BS3,ALL)	.351	.551	.200	.052	-.095	-.023	.041	.083	.277	.282
MEAN(BS5,ALL)	.423	.541	.225	-.116	-.005	.066	.108	-.062	.228	.138
MEAN(BS7,ALL)	.511	.414	.064	-.105	-.004	-.110	.021	.033	.293	.125
MEAN(MF2,ALL)	.531	-.068	.133	-.054	.418	-.296	.103	-.141	.068	-.109
MEAN(MF4,ALL)	.563	-.145	.082	-.095	.568	-.185	-.103	.068	.102	-.035
MEAN(MF6,ALL)	.631	-.070	.071	-.030	.433	-.248	-.018	-.161	.096	.017
MEAN(MF8,ALL)	.562	-.145	.079	-.117	.375	-.104	-.114	-.003	.092	-.010
MEAN(ESE10,ALL)	.657	-.089	-.227	-.175	-.101	.070	.115	-.284	-.071	-.120

Extraction Method: Principal Component Analysis.
a. Group = Treatment
b. 10 components extracted.

APPENDIX F5

Total Variance Explained[a] after Rotation

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.155	22.652	22.652	8.155	22.652	22.652	4.379	12.163	12.163
2	3.044	8.457	31.109	3.044	8.457	31.109	3.590	9.973	22.136
3	2.436	6.766	37.875	2.436	6.766	37.875	3.183	8.842	30.978
4	2.235	6.207	44.082	2.235	6.207	44.082	2.790	7.749	38.727
5	1.917	5.326	49.407	1.917	5.326	49.407	2.772	7.700	46.428
6	1.440	4.000	53.408	1.440	4.000	53.408	1.943	5.397	51.824
7	1.373	3.813	57.221	1.373	3.813	57.221	1.492	4.146	55.970
8	1.146	3.182	60.403	1.146	3.182	60.403	1.436	3.988	59.957
9	1.077	2.993	63.396	1.077	2.993	63.396	1.238	3.439	63.396
10	.997	2.770	66.167						
11	.807	2.241	68.408						
12	.772	2.144	70.551						
13	.734	2.038	72.590						
14	.712	1.978	74.568						
15	.686	1.906	76.474						
16	.656	1.822	78.295						
17	.635	1.764	80.059						
18	.591	1.641	81.701						
19	.554	1.540	83.241						
20	.516	1.434	84.675						
21	.507	1.409	86.084						
22	.471	1.309	87.393						
23	.462	1.284	88.677						
24	.430	1.195	89.872						
25	.397	1.103	90.975						
26	.378	1.051	92.027						
27	.360	1.000	93.027						
28	.338	.940	93.967						
29	.327	.909	94.876						
30	.321	.892	95.768						
31	.301	.835	96.603						
32	.284	.788	97.392						
33	.263	.730	98.122						
34	.243	.674	98.795						
35	.228	.633	99.428						

Extraction Method: Principal Component Analysis.

APPENDIX F6

Communalities after Rotation

	Initial	Extraction
MC1	1.000	.778
MC2	1.000	.769
MC3	1.000	.686
MC4	1.000	.661
MC5	1.000	.561
MS3	1.000	.564
MS4	1.000	.540
BS1	1.000	.711
BS2	1.000	.639
BS4	1.000	.654
BS6	1.000	.533
MF1	1.000	.582
MF3	1.000	.765
MF5	1.000	.687
MF7	1.000	.650
MF9	1.000	.655
ESE1	1.000	.698
ESE2	1.000	.602
ESE3	1.000	.630
ESE4	1.000	.524
ESE5	1.000	.569
ESE6	1.000	.645
ESE7	1.000	.578
ESE8	1.000	.695
ESE9	1.000	.647
MEAN(MS1,ALL)	1.000	.615
MEAN(MS2,ALL)	1.000	.651
MEAN(MS5,ALL)	1.000	.584
MEAN(BS3,ALL)	1.000	.577
MEAN(BS5,ALL)	1.000	.607
MEAN(BS7,ALL)	1.000	.556
MEAN(MF2,ALL)	1.000	.606
MEAN(MF4,ALL)	1.000	.744
MEAN(MF6,ALL)	1.000	.692
MEAN(MF8,ALL)	1.000	.531
MEAN(ESE10,ALL)	1.000	.637

Extraction Method: Principal Component Analysis.
a. Group = Treatment

APPENDIX F7

KMO and Bartlett's Test[a] after Rotation

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.852
Bartlett's Test of Sphericity	Approx. Chi-Square	4020.899
	Df	630
	Sig.	.000

a. Group = Treatment

KMO and Bartlett's Test[a] after items Deletion

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.859
Bartlett's Test of Sphericity	Approx. Chi-Square	3864.057
	Df	561
	Sig.	.000

a. Group = Treatment

APPENDIX F8

Total Variance Explained[a] after Second Rotation

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.131	23.231	23.231	8.131	23.231	23.231	4.642	13.262	13.262
2	3.042	8.692	31.924	3.042	8.692	31.924	3.527	10.076	23.339
3	2.427	6.933	38.857	2.427	6.933	38.857	3.193	9.123	32.462
4	2.233	6.380	45.237	2.233	6.380	45.237	2.753	7.865	40.327
5	1.886	5.388	50.625	1.886	5.388	50.625	1.934	5.527	45.854
6	1.437	4.106	54.731	1.437	4.106	54.731	1.869	5.339	51.193
7	1.186	3.390	58.120	1.186	3.390	58.120	1.804	5.156	56.349
8	1.098	3.138	61.258	1.098	3.138	61.258	1.508	4.308	60.657
9	1.002	2.862	64.121	1.002	2.862	64.121	1.212	3.464	64.121
10	.914	2.612	66.732						
11	.784	2.241	68.973						
12	.772	2.205	71.178						
13	.730	2.086	73.264						
14	.686	1.961	75.225						
15	.659	1.882	77.107						
16	.656	1.874	78.980						
17	.635	1.813	80.793						
18	.578	1.651	82.445						
19	.531	1.517	83.961						
20	.516	1.475	85.436						
21	.478	1.366	86.802						
22	.468	1.337	88.139						
23	.455	1.300	89.440						
24	.413	1.179	90.619						
25	.381	1.087	91.706						
26	.361	1.033	92.739						
27	.348	.996	93.734						
28	.335	.956	94.691						
29	.325	.930	95.620						
30	.301	.859	96.479						
31	.286	.816	97.296						
32	.263	.752	98.048						
33	.244	.698	98.745						
34	.230	.657	99.403						

Extraction Method: Principal Component Analysis.

APPENDIX F9

Rotated Component Matrix 3

Rotated Component Matrix[a,b]

	Component								
	1	2	3	4	5	6	7	8	9
MC1	.122	.110	-.019	.036	-.022	.239	.366	.449	.168
MC3	.000	-.015	.052	-.002	.023	-.079	.063	.246	.776
MC4	.173	.020	-.022	.091	-.014	.067	-.222	.732	.065
MC5	.051	-.031	.376	.004	.174	.008	.156	.582	.155
MS3	.087	.019	-.057	.074	.791	.181	.054	.063	.076
MS4	.054	.043	.160	.073	.810	.149	.083	-.024	-.055
BS1	-.008	.729	.115	-.002	-.014	.105	.249	.285	-.154
BS2	.065	.760	-.047	.063	.021	-.038	-.014	.108	-.189
BS4	.122	.808	-.041	.009	.137	-.126	-.009	-.021	-.024
BS6	.111	.681	.241	-.036	.039	.017	.084	.016	-.042
MF1	-.024	-.058	.025	.753	-.062	.105	.202	.023	-.010
MF3	.082	-.028	.090	.868	.041	.004	.015	-.035	.075
MF5	.149	.040	.147	.788	.115	-.039	-.051	.039	-.037
MF7	.119	.089	.144	.742	.162	-.123	-.107	.096	-.030
MF9	.133	.108	.626	.243	-.040	.062	.315	.152	-.220
ESE1	.453	.034	.121	.014	.078	.091	.650	.018	-.074
ESE2	.444	.158	.091	-.073	.164	-.007	.509	.005	.188
ESE3	.414	-.002	.139	.093	.114	-.032	.628	-.106	.041
ESE4	.615	.011	.095	.081	.021	-.044	.253	.043	.246
ESE5	.725	.096	.145	.017	-.122	.134	.013	.034	-.120
ESE6	.702	.135	.109	.212	.044	.103	.221	-.045	-.070
ESE7	.685	.073	.158	.065	.084	.089	.204	.014	.095
ESE8	.760	.173	.205	-.009	.116	-.012	-.024	.180	.065
ESE9	.718	.105	.204	.073	.113	.177	.168	.013	-.076
MEAN(MS1,ALL)	.092	.100	.161	-.071	.185	.783	.118	.213	-.057
MEAN(MS2,ALL)	.081	.055	.100	-.025	.345	.779	-.057	-.029	-.036
MEAN(MS5,ALL)	.258	.084	.078	.237	.506	.408	.106	.124	.004
MEAN(BS3,ALL)	.090	.612	.022	.012	-.025	.351	-.009	-.198	.312
MEAN(BS5,ALL)	.182	.664	.132	.008	-.035	.141	-.114	-.054	.297
MEAN(BS7,ALL)	.282	.525	.219	.006	-.041	.192	.058	-.197	.284
MEAN(MF2,ALL)	.236	.121	.718	.063	.169	.002	-.127	-.063	.001
MEAN(MF4,ALL)	.139	.046	.826	.071	-.013	.065	.142	.063	.090
MEAN(MF6,ALL)	.307	.115	.740	.069	.065	.154	-.050	.013	.043
MEAN(MF8,ALL)	.226	.074	.647	.139	-.012	.056	.125	.064	.069
MEAN(ESE10,ALL)	.731	.114	.191	.077	.110	-.090	.019	.184	-.010

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Group = Treatment
b. Rotation converged in 8 iterations.

APPENDIX F10

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.035	23.631	23.631	8.035	23.631	23.631	4.368	12.848	12.848
2	3.042	8.946	32.577	3.042	8.946	32.577	3.637	10.698	23.546
3	2.422	7.125	39.702	2.422	7.125	39.702	3.173	9.333	32.879
4	2.219	6.527	46.229	2.219	6.527	46.229	2.788	8.199	41.078
5	1.884	5.542	51.771	1.884	5.542	51.771	2.768	8.142	49.220
6	1.355	3.985	55.756	1.355	3.985	55.756	1.906	5.606	54.826
7	1.153	3.392	59.148	1.153	3.392	59.148	1.469	4.321	59.148
8	1.096	3.224	62.372						
9	.998	2.935	65.307						
10	.799	2.349	67.656						
11	.772	2.270	69.926						
12	.734	2.158	72.084						
13	.719	2.114	74.199						
14	.685	2.014	76.212						
15	.656	1.930	78.142						
16	.635	1.867	80.009						
17	.597	1.757	81.765						
18	.531	1.563	83.328						
19	.517	1.520	84.848						
20	.487	1.432	86.280						
21	.469	1.378	87.658						
22	.458	1.346	89.004						
23	.427	1.257	90.260						
24	.387	1.138	91.398						
25	.366	1.076	92.474						
26	.351	1.033	93.507						
27	.335	.986	94.493						
28	.328	.966	95.458						
29	.303	.891	96.350						
30	.286	.841	97.191						
31	.263	.775	97.966						
32	.246	.723	98.689						
33	.236	.695	99.384						
34	.209	.616	100.000						

Extraction Method: Principal Component Analysis.

APPENDIX F11

Communalities[a]

	Initial	Extraction
MC3	1.000	.376
MC4	1.000	.586
MC5	1.000	.554
MS3	1.000	.548
MS4	1.000	.530
BS1	1.000	.602
BS2	1.000	.562
BS4	1.000	.645
BS6	1.000	.527
MF1	1.000	.587
MF3	1.000	.742
MF5	1.000	.686
MF7	1.000	.651
MF9	1.000	.595
ESE1	1.000	.682
ESE2	1.000	.581
ESE3	1.000	.620
ESE4	1.000	.493
ESE5	1.000	.549
ESE6	1.000	.638
ESE7	1.000	.565
ESE8	1.000	.693
ESE9	1.000	.643
MEAN(MS1,ALL)	1.000	.583
MEAN(MS2,ALL)	1.000	.645
MEAN(MS5,ALL)	1.000	.583
MEAN(BS3,ALL)	1.000	.481
MEAN(BS5,ALL)	1.000	.550
MEAN(BS7,ALL)	1.000	.458
MEAN(MF2,ALL)	1.000	.583
MEAN(MF4,ALL)	1.000	.738
MEAN(MF6,ALL)	1.000	.686
MEAN(MF8,ALL)	1.000	.522
MEAN(ESE10,ALL)	1.000	.627

Extraction Method: Principal Component Analysis.
a. Group = Treatment

Appendix G

Principal Component Analyses for Control Group

Appendix G1 Rotated Component Matrix for Control Group

Rotated Component Matrix[a,p]

	Component											
	1	2	3	4	5	6	7	8	9	10	11	12
MC1	.010	.157	.094	.274	.044	.150	.085	-.025	.018	.063	.787	.042
MC2	-.017	.320	-.047	.165	-.145	.280	.062	-.016	.100	.149	-.657	.112
MC3	-.019	.783	.026	.219	.159	-.143	.021	.180	.002	.102	-.068	.108
MC4	.060	.037	-.051	.804	-.046	.062	-.062	.099	.011	.027	.223	-.144
MC5	.077	.161	.117	.070	-.109	.016	.764	.020	.008	.019	-.053	.064
MS3	-.088	.128	.060	-.111	.128	.065	.109	.033	.123	-.035	-.019	.843
MS4	.070	.033	-.112	.001	.750	-.006	-.022	.034	-.095	.020	-.070	.387
BS1	.714	.143	-.032	-.019	.058	.100	-.003	-.022	-.301	-.106	-.098	-.073
BS2	.581	-.216	.029	.075	-.122	.524	.146	-.073	.230	-.038	.025	-.020
BS4	.773	.159	.018	.023	-.013	-.226	-.039	.021	-.110	-.047	-.014	.001
BS6	.693	.062	-.042	.213	.143	.043	-.103	.184	.194	.001	-.061	-.079
MF1	-.006	.057	.795	.082	.070	.063	-.063	-.004	-.224	.052	.022	.114
MF3	-.009	.019	.845	-.043	-.038	.095	.032	.045	.172	.035	.068	-.041
MF5	-.048	.057	.808	.045	-.053	-.022	.064	.045	.114	-.027	.003	-.025
MF7	-.016	-.161	.364	.290	.226	.062	.193	.212	.543	-.063	.030	.169
MF9	.078	-.006	.017	.121	.033	.066	-.060	-.051	.763	-.014	-.048	.046
ESE1	.139	-.400	-.100	-.425	.091	-.031	.140	.364	.007	.064	.021	-.030
ESE2	.161	-.174	.028	.091	.182	.579	.132	.320	.032	-.048	-.161	-.143
ESE3	.060	-.635	-.156	.182	.159	.009	-.006	.245	-.006	.114	.024	-.059
ESE4	.050	.024	-.023	.132	-.079	.265	.042	.693	-.120	-.290	.100	.124
ESE5	.043	-.256	.117	.104	.241	.197	.281	.082	-.294	-.316	-.231	-.256
ESE6	.112	.190	.232	-.089	.110	.047	-.086	.665	.120	.114	-.131	-.048
ESE7	.106	-.389	-.076	-.266	-.041	-.240	-.180	.424	-.116	-.062	.082	.003
ESE8	.055	.109	.125	.374	.110	.203	-.623	.142	-.032	.104	-.229	-.052
ESE9	.049	-.218	.138	-.082	-.031	.792	-.214	.054	.004	-.022	.063	.140
MEAN(MS1,ALL)	.103	.772	.029	.140	.185	-.188	.065	.123	-.064	.185	-.019	-.087
MEAN(MS2,ALL)	.145	.740	-.037	-.048	.128	-.106	.007	.038	-.031	.054	.081	.066
MEAN(MS5,ALL)	-.056	.148	.012	-.009	.729	-.046	-.221	-.005	-.012	-.128	.131	.064
MEAN(BS3,ALL)	.722	.034	-.015	-.227	-.096	.334	.026	-.034	.151	.030	.094	.083
MEAN(BS5,ALL)	.251	.143	.016	-.105	-.094	-.100	-.323	.040	.062	.556	.138	.122
MEAN(BS7,ALL)	.681	-.230	-.067	-.114	.086	.085	.127	.239	.163	.036	.158	-.059
MEAN(MF2,ALL)	-.377	.285	-.112	-.210	.164	.222	.299	.045	.028	.104	.215	-.256
MEAN(MF4,ALL)	-.195	.110	.063	-.004	.024	.046	.056	-.104	-.014	.777	-.122	-.171
MEAN(MF6,ALL)	-.110	-.067	-.022	.336	.057	-.038	.440	-.006	-.200	.541	.025	.147
MEAN(MF8,ALL)	.072	.106	.062	-.047	.694	.084	.086	.038	.226	.105	.060	-.206
MEAN(ESE10,ALL)	.032	-.044	-.121	-.724	.003	.108	-.085	.129	-.317	.024	.077	-.011

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

APPENDIX G2

Total Variance Explained[a] for the Control Group

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.980	11.055	11.055	3.980	11.055	11.055	3.319	9.220	9.220
2	3.602	10.005	21.060	3.602	10.005	21.060	3.172	8.810	18.030
3	2.820	7.833	28.893	2.820	7.833	28.893	2.367	6.575	24.604
4	2.143	5.954	34.847	2.143	5.954	34.847	2.231	6.197	30.801
5	1.959	5.441	40.288	1.959	5.441	40.288	2.020	5.611	36.412
6	1.765	4.903	45.192	1.765	4.903	45.192	1.912	5.310	41.723
7	1.581	4.391	49.582	1.581	4.391	49.582	1.761	4.891	46.614
8	1.524	4.234	53.817	1.524	4.234	53.817	1.671	4.642	51.256
9	1.430	3.972	57.788	1.430	3.972	57.788	1.580	4.388	55.643
10	1.269	3.524	61.313	1.269	3.524	61.313	1.578	4.383	60.026
11	1.208	3.355	64.668	1.208	3.355	64.668	1.455	4.040	64.066
12	1.083	3.007	67.675	1.083	3.007	67.675	1.299	3.609	67.675
13	.979	2.720	70.395						
14	.938	2.606	73.001						
15	.857	2.381	75.383						
16	.789	2.190	77.573						
17	.736	2.046	79.619						
18	.686	1.906	81.525						
19	.645	1.792	83.316						
20	.589	1.636	84.952						
21	.543	1.508	86.460						
22	.542	1.506	87.966						
23	.455	1.263	89.228						
24	.451	1.254	90.482						
25	.431	1.197	91.680						
26	.396	1.100	92.780						
27	.375	1.042	93.822						
28	.364	1.012	94.834						
29	.324	.900	95.735						
30	.302	.838	96.572						
31	.268	.745	97.317						
32	.245	.680	97.997						
33	.211	.586	98.583						

APPENDIX G 3

Communalities[a] or the Control Groupf

	Initial	Extraction
MC1	1.000	.767
MC2	1.000	.712
MC3	1.000	.767
MC4	1.000	.744
MC5	1.000	.653
MS3	1.000	.800
MS4	1.000	.747
BS1	1.000	.662
BS2	1.000	.763
BS4	1.000	.691
BS6	1.000	.646
MF1	1.000	.721
MF3	1.000	.767
MF5	1.000	.684
MF7	1.000	.708
MF9	1.000	.620
ESE1	1.000	.536
ESE2	1.000	.603
ESE3	1.000	.566
ESE4	1.000	.704
ESE5	1.000	.580
ESE6	1.000	.621
ESE7	1.000	.535
ESE8	1.000	.699
ESE9	1.000	.777
MEAN(MS1,ALL)	1.000	.763
MEAN(MS2,ALL)	1.000	.616
MEAN(MS5,ALL)	1.000	.645
MEAN(BS3,ALL)	1.000	.736
MEAN(BS5,ALL)	1.000	.566
MEAN(BS7,ALL)	1.000	.679
MEAN(MF2,ALL)	1.000	.571
MEAN(MF4,ALL)	1.000	.719
MEAN(MF6,ALL)	1.000	.684
MEAN(MF8,ALL)	1.000	.629
MEAN(ESE10,ALL)	1.000	.685

APPENDIX G 4

Rotated Component Matrix[a,b]

	Component						
	1	2	3	4	5	6	7
MEAN(BS3,ALL)	.801						
MEAN(BS7,ALL)	.726						
BS2	.706						
BS6	.697						
BS4	.663						
BS1	.639						
MEAN(MS1,ALL)		.814					
MC3		.760					
MEAN(MS2,ALL)		.703					
ESE3		-.510					
ESE9							
MF3			.845				
MF5			.783				
MF1			.733				
MF7							
ESE6							
MEAN(ESE10,ALL)				-.777			
MC4				.754			
ESE1							
ESE7							
MS4					.726		
MEAN(MS5,ALL)					.645		
MEAN(MF8,ALL)					.633		
MS3							
ESE5						.646	
ESE4						.556	
ESE2							
MEAN(BS5,ALL)							
MF9							
MEAN(MF4,ALL)							
MC5							.725
ESE8							-.607
MEAN(MF6,ALL)							
MEAN(MF2,ALL)							

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Group = Control
b. Rotation converged in 7 iterations.

Appendix H

Reliability Results

Appendix H1Reliability Test Results for Microcredit

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.724	.720	3

Item Statistics

	Mean	Std. Deviation	N
MC3	3.26	1.308	414
MC4	2.94	1.484	414
MC5	2.86	1.391	414

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Inter-Item Correlations	.462	.351	.674	.322	1.917	.027	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MC3	5.79	6.919	.389	.151	.804
MC4	6.12	4.957	.627	.467	.529
MC5	6.20	5.276	.640	.471	.517

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.06	11.304	3.362	3

APPENDIX H 2 Reliability Test Results for Microsavings

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.755	.755	5

Item Statistics

	Mean	Std. Deviation	N
MS3	3.00	1.476	414
MS4	3.32	1.376	414
MEAN(MS1,ALL)	2.93	1.415	414
MEAN(MS2,ALL)	3.18	1.454	414
MEAN(MS5,ALL)	3.50	1.395	414

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Inter-Item Correlations	.381	.252	.635	.383	2.522	.010	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MS3	12.93	17.280	.499	.270	.720
MS4	12.61	18.018	.485	.276	.724
MEAN(MS1,ALL)	13.00	17.365	.527	.427	.709
MEAN(MS2,ALL)	12.75	16.551	.585	.457	.687
MEAN(MS5,ALL)	12.43	17.656	.510	.279	.715

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.93	25.579	5.058	5

APPENDIX H 3 Reliability Test Result for Business Skills

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.802	.807	7

Item Statistics

	Mean	Std. Deviation	N
BS1	3.02	1.561	414
BS2	3.04	1.511	414
BS4	3.66	1.324	414
BS6	3.28	1.353	414
MEAN(BS3,ALL)	3.22	1.190	414
MEAN(BS5,ALL)	2.96	1.507	414
MEAN(BS7,ALL)	3.13	1.366	414

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Inter-Item Correlations	.374	.092	.575	.483	6.252	.013	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
BS1	19.30	33.262	.478	.381	.788
BS2	19.28	32.493	.553	.338	.773
BS4	18.66	34.080	.548	.374	.774
BS6	19.04	32.983	.611	.389	.762
MEAN(BS3,ALL)	19.10	34.623	.590	.366	.769
MEAN(BS5,ALL)	19.36	34.433	.429	.366	.796
MEAN(BS7,ALL)	19.19	33.497	.565	.451	.770

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
22.32	44.302	6.656	7

APPENDIX H 4 Reliability Test Result for Microfinance

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.848	.849	9

Item Statistics

	Mean	Std. Deviation	N
MF1	2.91	1.574	414
MF3	2.96	1.563	414
MF5	3.05	1.603	414
MF7	3.33	1.416	414
MF9	3.02	1.484	414
MEAN(MF2,ALL)	3.06	1.692	414
MEAN(MF4,ALL)	2.97	1.442	414
MEAN(MF6,ALL)	2.90	1.477	414
MEAN(MF8,ALL)	3.33	1.358	414

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Inter-Item Correlations	.385	.183	.775	.592	4.239	.023	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
MF1	24.63	69.048	.471	.403	.842
MF3	24.58	66.340	.591	.577	.829
MF5	24.49	65.846	.593	.513	.829
MF7	24.21	69.178	.538	.394	.835
MF9	24.52	68.603	.530	.365	.835
MEAN(MF2,ALL)	24.49	66.527	.524	.441	.837
MEAN(MF4,ALL)	24.57	65.883	.678	.682	.820
MEAN(MF6,ALL)	24.64	65.631	.670	.652	.821
MEAN(MF8,ALL)	24.21	70.513	.504	.323	.838

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
27.54	83.843	9.157	9

APPENDIX H 5 Reliability Test Results for Entrepreneurial Self-efficacy

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.837	.838	10

Item Statistics

	Mean	Std. Deviation	N
ESE1	3.08	1.469	414
ESE2	3.45	1.299	414
ESE3	3.03	1.494	414
ESE4	3.55	1.259	414
ESE5	3.61	1.293	414
ESE6	3.41	1.388	414
ESE7	3.32	1.287	414
ESE8	3.50	1.327	414
ESE9	3.05	1.393	414
MEAN(ESE10,ALL)	3.34	1.370	414

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Inter-Item Correlations	.341	.199	.527	.329	2.652	.004	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
ESE1	30.26	60.267	.555	.409	.820
ESE2	29.88	62.685	.521	.309	.823
ESE3	30.31	61.274	.495	.347	.826
ESE4	29.79	63.407	.503	.281	.825
ESE5	29.72	63.784	.466	.236	.828
ESE6	29.93	61.523	.534	.320	.822
ESE7	30.02	61.619	.584	.347	.818
ESE8	29.84	62.905	.494	.304	.826
ESE9	30.28	59.885	.615	.404	.814
MEAN(ESE10,ALL)	29.99	61.748	.532	.324	.822

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
33.33	75.075	8.665	10

Appendix I

Multiple and Hierarchical Regression Results

Appendix I1 Microcredit, Microsavings and Business Skills

Model Summary

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Treatment	1	.356[a]	.127	.117	.768	.127	13.181	3	273	.000
Control	1	.229[a]	.052	.031	.653	.052	2.448	3	133	.066

ANOVA[a]

Group	Model		Sum of Squares	Df	Mean Square	F	Sig.
Treatment	1	Regression	23.315	3	7.772	13.181	.000[b]
		Residual	160.961	273	.590		
		Total	184.276	276			
Control	1	Regression	3.136	3	1.045	2.448	.066[b]
		Residual	56.788	133	.427		
		Total	59.924	136			

a. Dependent Variable: TMF
b. Predictors: (Constant), TBS, TMC, TMS

Coefficients[a]

Group	Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
			B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
Treatment	1	(Constant)	1.857	.281		6.618	.000	1.305	2.409					
		TMC	.179	.060	.171	2.986	.003	.061	.296	.218	.178	.169	.972	1.029
		TMS	.166	.047	.208	3.553	.000	.074	.258	.269	.210	.201	.932	1.073
		TBS	.134	.050	.155	2.672	.008	.035	.234	.214	.160	.151	.951	1.052
Control	1	(Constant)	1.652	.296		5.576	.000	1.066	2.239					
		TMC	.221	.123	.169	1.801	.074	-.022	.463	.207	.154	.152	.807	1.239
		TMS	.074	.080	.087	.929	.355	-.084	.232	.160	.080	.078	.807	1.239

APPENDIX I 2 Moderating effect of entrepreneurial self-efficacy (ESE) on microcredit

Model Summary

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Treatment	1	.218[a]	.047	.044	.799	.047	13.665	1	275	.000
	2	.462[b]	.213	.208	.727	.166	57.861	1	274	.000
	3	.495[c]	.245	.237	.714	.032	11.575	1	273	.001
Control	1	.207[a]	.043	.036	.652	.043	6.039	1	135	.015
	2	.216[b]	.046	.032	.653	.004	.516	1	134	.474
	3	.216[c]	.047	.025	.655	.000	.028	1	133	.867

a. Predictors: (Constant), TMC
b. Predictors: (Constant), TMC, TESE
c. Predictors: (Constant), TMC, TESE, Interaction1

ANOVA[a]

Group	Model		Sum of Squares	Df	Mean Square	F	Sig.
Treatment	1	Regression	8.723	1	8.723	13.665	.000[b]
		Residual	175.553	275	.638		
		Total	184.276	276			
	2	Regression	39.331	2	19.666	37.175	.000[c]
		Residual	144.945	274	.529		
		Total	184.276	276			
	3	Regression	45.227	3	15.076	29.598	.000[d]
		Residual	139.049	273	.509		
		Total	184.276	276			
Control	1	Regression	2.566	1	2.566	6.039	.015[b]
		Residual	57.359	135	.425		
		Total	59.924	136			
	2	Regression	2.786	2	1.393	3.267	.041[c]
		Residual	57.139	134	.426		
		Total	59.924	136			
	3	Regression	2.798	3	.933	2.171	.094[d]
		Residual	57.127	133	.430		
		Total	59.924	136			

a. Dependent Variable: TMF
b. Predictors: (Constant), TMC
c. Predictors: (Constant), TMC, TESE
d. Predictors: (Constant), TMC, TESE, Interaction1

Coefficients[a]

Group	Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
			B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
Treatment	1	(Constant)	2.705	.228		11.865	.000	2.256	3.153					
		TMC	.227	.061	.218	3.697	.000	.106	.348	.218	.218	.218	1.000	1.000
	2	(Constant)	1.773	.241		7.358	.000	1.299	2.247					
		TMC	.136	.057	.131	2.389	.018	.024	.249	.218	.143	.128	.957	1.045
		TESE	.363	.048	.417	7.607	.000	.269	.457	.444	.418	.408	.957	1.045
	3	(Constant)	1.701	.237		7.167	.000	1.234	2.169					
		TMC	.160	.056	.154	2.840	.005	.049	.272	.218	.169	.149	.942	1.062
		TESE	.367	.047	.422	7.843	.000	.275	.459	.444	.429	.412	.956	1.046
		Interaction1	-.148	.043	-.181	-3.402	.001	-.233	-.062	-.137	-.202	-.179	.982	1.019
Control	1	(Constant)	1.634	.203		8.030	.000	1.231	2.036					
		TMC	.270	.110	.207	2.457	.015	.053	.487	.207	.207	.207	1.000	1.000
	2	(Constant)	1.388	.398		3.491	.001	.602	2.175					
		TMC	.291	.114	.223	2.555	.012	.066	.516	.207	.216	.216	.935	1.070
		TESE	.068	.095	.063	.718	.474	-.120	.256	.006	.062	.061	.935	1.070
	3	(Constant)	1.423	.449		3.167	.002	.534	2.312					
		TMC	.290	.114	.222	2.539	.012	.064	.516	.207	.215	.215	.934	1.071
		TESE	.056	.118	.052	.476	.635	-.178	.290	.006	.041	.040	.605	1.652
		Interaction1	-.009	.056	-.018	-.168	.867	-.121	.102	-.020	-.015	-.014	.637	1.570

a. Dependent Variable: TMF

APPENDIX I 3 Moderating effect of entrepreneurial self-efficacy (ESE) on microsaving

Model Summary

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Treatment	1	.269[a]	.073	.069	.788	.073	21.516	1	275	.000
	2	.463[b]	.215	.209	.727	.142	49.618	1	274	.000
	3	.465[c]	.216	.207	.728	.001	.403	1	273	.526
Control	1	.160[a]	.026	.018	.658	.026	3.544	1	135	.062
	2	.162[b]	.026	.012	.660	.001	.070	1	134	.792
	3	.163[c]	.026	.004	.662	.000	.048	1	133	.828

a. Predictors: (Constant), TMS
b. Predictors: (Constant), TMS, TESE
c. Predictors: (Constant), TMS, TESE, Interaction2

ANOVA[a]

Group	Model		Sum of Squares	df	Mean Square	F	Sig.
Treatment	1	Regression	13.371	1	13.371	21.516	.000[b]
		Residual	170.905	275	.621		
		Total	184.276	276			
	2	Regression	39.575	2	19.788	37.469	.000[c]
		Residual	144.701	274	.528		
		Total	184.276	276			
	3	Regression	39.788	3	13.263	25.059	.000[d]
		Residual	144.488	273	.529		
		Total	184.276	276			
Control	1	Regression	1.533	1	1.533	3.544	.062[b]
		Residual	58.392	135	.433		
		Total	59.924	136			
	2	Regression	1.563	2	.782	1.795	.170[c]
		Residual	58.361	134	.436		
		Total	59.924	136			
	3	Regression	1.584	3	.528	1.204	.311[d]
		Residual	58.340	133	.439		
		Total	59.924	136			

a. Dependent Variable: TMF
b. Predictors: (Constant), TMS
c. Predictors: (Constant), TMS, TESE

Coefficients[a]

Group	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
			B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
Treatment	1	(Constant)	2.792	.166		16.847	.000	2.466	3.118					
		TMS	.215	.046	.269	4.638	.000	.124	.306	.269	.269	.269	1.000	1.000
	2	(Constant)	1.939	.195		9.948	.000	1.555	2.323					
		TMS	.112	.045	.141	2.485	.014	.023	.201	.269	.148	.133	.896	1.117
		TESE	.347	.049	.398	7.044	.000	.250	.444	.444	.392	.377	.896	1.117
	3	(Constant)	1.950	.196		9.953	.000	1.565	2.336					
		TMS	.112	.045	.141	2.483	.014	.023	.201	.269	.149	.133	.896	1.117
		TESE	.346	.049	.397	7.016	.000	.249	.443	.444	.391	.376	.895	1.118
		Interaction2	-.026	.041	-.034	-.635	.526	-.105	.054	-.047	-.038	-.034	.999	1.001
Control	1	(Constant)	1.749	.202		8.647	.000	1.349	2.149					
		TMS	.136	.072	.160	1.882	.062	-.007	.278	.160	.160	.160	1.000	1.000
	2	(Constant)	1.668	.366		4.553	.000	.944	2.393					
		TMS	.138	.073	.162	1.893	.060	-.006	.282	.160	.161	.161	.989	1.011
		TESE	.025	.093	.023	.264	.792	-.160	.209	.006	.023	.023	.989	1.011
	3	(Constant)	1.638	.393		4.168	.000	.861	2.415					
		TMS	.139	.073	.164	1.899	.060	-.006	.284	.160	.162	.162	.980	1.020
		TESE	.034	.102	.031	.329	.743	-.169	.236	.006	.029	.028	.826	1.211
		Interaction2	.015	.067	.020	.218	.828	-.118	.148	.001	.019	.019	.833	1.200

a. Dependent Variable: TMF

APPENDIX I 4 Moderating effect of entrepreneurial self-efficacy (ESE) on entrepreneurial skills

Model Summary

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Treatment	1	.214[a]	.046	.042	.800
	2	.450[b]	.202	.197	.732
	3	.476[c]	.226	.218	.723
Control	1	.056[a]	.003	-.004	.665
	2	.060[b]	.004	-.011	.668
	3	.089[c]	.008	-.014	.669

a. Predictors: (Constant), TBS
b. Predictors: (Constant), TBS, TESE
c. Predictors: (Constant), TBS, TESE, Interaction3

ANOVA[a]

Group	Model		Sum of Squares	df	Mean Square	F	Sig.
Treatment	1	Regression	8.439	1	8.439	13.198	.000[b]
		Residual	175.837	275	.639		
		Total	184.276	276			
	2	Regression	37.312	2	18.656	34.782	.000[c]
		Residual	146.964	274	.536		
		Total	184.276	276			
	3	Regression	41.711	3	13.904	26.624	.000[d]
		Residual	142.565	273	.522		
		Total	184.276	276			
Control	1	Regression	.190	1	.190	.428	.514[b]
		Residual	59.735	135	.442		
		Total	59.924	136			
	2	Regression	.218	2	.109	.244	.784[c]
		Residual	59.707	134	.446		
		Total	59.924	136			
	3	Regression	.473	3	.158	.352	.787[d]
		Residual	59.452	133	.447		
		Total	59.924	136			

a. Dependent Variable: TMF
b. Predictors: (Constant), TBS
c. Predictors: (Constant), TBS, TESE
d. Predictors: (Constant), TBS, TESE, Interaction3

Coefficients[a]

Group	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Treatment	1	(Constant)	2.902	.179		16.220	.000
		TBS	.186	.051	.214	3.633	.000
	2	(Constant)	2.035	.202		10.070	.000
		TBS	.068	.050	.078	1.365	.173
		TESE	.364	.050	.419	7.337	.000
	3	(Constant)	2.022	.199		10.138	.000
		TBS	.113	.051	.131	2.209	.028
		TESE	.335	.050	.385	6.702	.000
		Interaction3	-.125	.043	-.163	-2.902	.004
Control	1	(Constant)	2.237	.195		11.444	.000
		TBS	-.043	.066	-.056	-.655	.514
	2	(Constant)	2.175	.314		6.939	.000
		TBS	-.048	.069	-.062	-.696	.488
		TESE	.024	.097	.022	.251	.802
	3	(Constant)	2.180	.314		6.942	.000
		TBS	-.029	.074	-.038	-.398	.691
		TESE	.008	.100	.008	.085	.932
		Interaction3	-.035	.046	-.070	-.755	.452

a. Dependent Variable: TMF

APPENDIX I 5 Moderating effect of ESE on microcredit, microsavings, and business skills

Model Summary

Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
Treatment	1	.356[a]	.127	.117	.768	.127	13.181	3	273	.000
	2	.481[b]	.231	.220	.722	.105	37.065	1	272	.000
	3	.507[c]	.257	.244	.711	.026	9.518	1	271	.002
Control	1	.229[a]	.052	.031	.653	.052	2.448	3	133	.066
	2	.242[b]	.059	.030	.654	.006	.899	1	132	.345
	3	.243[c]	.059	.023	.656	.000	.020	1	131	.886

a. Predictors: (Constant), TBS, TMC, TMS
b. Predictors: (Constant), TBS, TMC, TMS, TESE
c. Predictors: (Constant), TBS, TMC, TMS, TESE, interaction4

ANOVA[a]

Group	Model		Sum of Squares	df	Mean Square	F	Sig.
Treatment	1	Regression	23.315	3	7.772	13.181	.000[b]
		Residual	160.961	273	.590		
		Total	184.276	276			
	2	Regression	42.618	4	10.655	20.458	.000[c]
		Residual	141.658	272	.521		
		Total	184.276	276			
	3	Regression	47.425	5	9.485	18.783	.000[d]
		Residual	136.851	271	.505		
		Total	184.276	276			
Control	1	Regression	3.136	3	1.045	2.448	.066[b]
		Residual	56.788	133	.427		
		Total	59.924	136			
	2	Regression	3.520	4	.880	2.060	.090[c]
		Residual	56.404	132	.427		
		Total	59.924	136			
	3	Regression	3.529	5	.706	1.640	.154[d]
		Residual	56.395	131	.430		
		Total	59.924	136			

a. Dependent Variable: TMF
b. Predictors: (Constant), TBS, TMC, TMS
c. Predictors: (Constant), TBS, TMC, TMS, TESE
d. Predictors: (Constant), TBS, TMC, TMS, TESE, interaction4

Coefficients[a]

Group	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
Treatment	1 (Constant)	1.857	.281		6.618	.000	1.305	2.409					
	TMC	.179	.060	.171	2.986	.003	.061	.296	.218	.178	.169	.972	1.029
	TMS	.166	.047	.208	3.553	.000	.074	.258	.269	.210	.201	.932	1.073
	TBS	.134	.050	.155	2.672	.008	.035	.234	.214	.160	.151	.951	1.052
	2 (Constant)	1.483	.271		5.476	.000	.950	2.016					
	TMC	.123	.057	.118	2.162	.032	.011	.235	.218	.130	.115	.947	1.056
	TMS	.096	.045	.121	2.119	.035	.007	.185	.269	.127	.113	.873	1.146
	TBS	.053	.049	.061	1.077	.282	-.044	.150	.214	.065	.057	.880	1.136
	TESE	.314	.052	.361	6.088	.000	.212	.415	.444	.346	.324	.806	1.241
	3 (Constant)	1.487	.267		5.576	.000	.962	2.011					
	TMC	.137	.056	.132	2.442	.015	.027	.248	.218	.147	.128	.940	1.063
	TMS	.093	.045	.116	2.073	.039	.005	.181	.269	.125	.109	.872	1.147
	TBS	.066	.049	.076	1.361	.175	-.030	.162	.214	.082	.071	.874	1.145
	TESE	.303	.051	.348	5.954	.000	.203	.403	.444	.340	.312	.802	1.247
	interaction4	-.059	.019	-.163	-3.085	.002	-.097	-.021	-.163	-.184	-.162	.984	1.016
Control	1 (Constant)	1.652	.296		5.576	.000	1.066	2.239					
	TMC	.221	.123	.169	1.801	.074	-.022	.463	.207	.154	.152	.807	1.239
	TMS	.074	.080	.087	.929	.355	-.084	.232	.160	.080	.078	.807	1.239
	TBS	-.046	.065	-.060	-.711	.478	-.175	.083	-.056	-.062	-.060	.999	1.001
	2 (Constant)	1.366	.424		3.224	.002	.528	2.203					
	TMC	.250	.126	.192	1.976	.050	.000	.500	.207	.170	.167	.760	1.317
	TMS	.074	.080	.087	.927	.356	-.084	.232	.160	.080	.078	.807	1.239
	TBS	-.065	.068	-.084	-.949	.344	-.199	.070	-.056	-.082	-.080	.920	1.087
	TESE	.094	.099	.086	.948	.345	-.102	.290	.006	.082	.080	.860	1.162
	3 (Constant)	1.332	.484		2.751	.007	.374	2.290					
	TMC	.252	.128	.193	1.971	.051	-.001	.505	.207	.170	.167	.747	1.338
	TMS	.076	.081	.089	.934	.352	-.085	.237	.160	.081	.079	.785	1.274
	TBS	-.067	.070	-.087	-.953	.342	-.205	.072	-.056	-.083	-.081	.872	1.146
	TESE	.104	.122	.096	.854	.394	-.137	.345	.006	.074	.072	.574	1.742
	interaction4	.004	.028	.015	.143	.886	-.052	.060	-.054	.013	.012	.654	1.529

a. Dependent Variable: TMF